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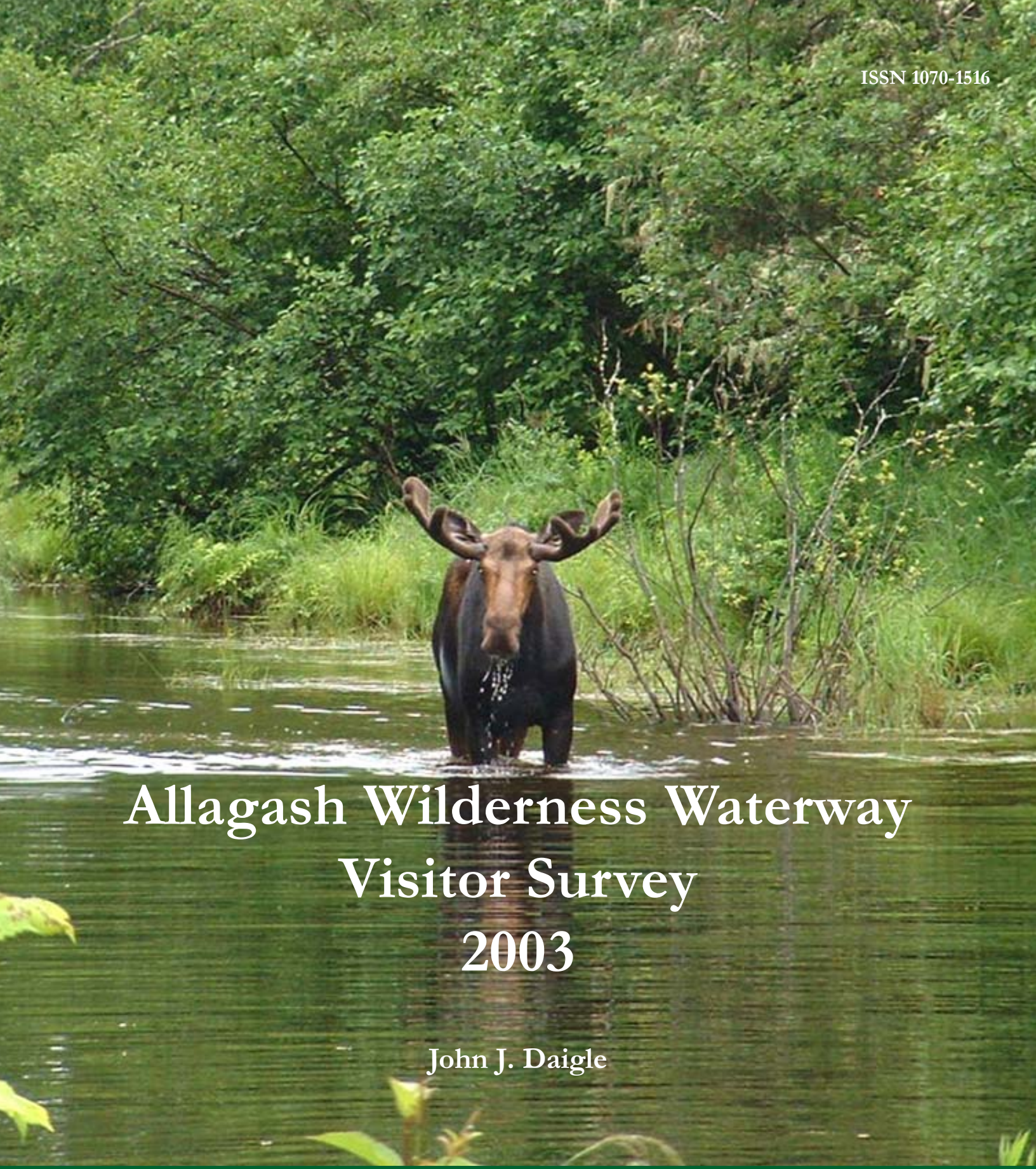

Allagash Wilderness Waterway Visitor Survey 2003

John J. Daigle

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MAINE AGRICULTURAL AND FOREST EXPERIMENT STATION
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Allagash Wilderness Waterway Visitor Survey 2003

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Front cover photo: More than 90% of visitors reported they saw a moose on their Allagash Wilderness Waterway Visit. This photo was taken by Tom Desjardin at Finley Bogan near Michaud Farm, Allagash Wilderness Waterway.

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EXECUTIVE SUMMARY

During the spring, summer, and fall seasons of 2003, visitors to the Allagash Wilderness Waterway were asked to participate in a user survey. The user survey was designed to elicit information from respondents on a variety of variables to determine characteristics of the visit, including activities, method of travel on the waterway, length of stay, camping conditions encountered, and to determine visitor preferences, including satisfactions with resource and social conditions encountered at campsites and while traveling on the watercourse. Information was collected from visitors using two survey instruments: a short visitor survey card and a more extensive mail-back questionnaire. A total of 531 questionnaires were mailed to visitors. Visitors returned 454 usable questionnaires for an 87% response rate.

Visitor Use Characteristics

- The largest proportion of visitors was from Maine (58%), followed by the other New England states: Massachusetts (11%), New Hampshire (7%), Connecticut (5%), and Vermont (4%).
- Most visitors stayed one or more nights (98%). Thirty-nine percent stayed three to four nights. Twenty-eight percent indicated that they spent five to six nights. Approximately 18% of visitors stayed a week or more.
- The most common wildlife reported seen was moose (91%). Over three-quarters (76%) reported seeing bald eagles and 72% deer. Over half of visitors (57%) saw blue heron and 50% reported seeing osprey among other wildlife.
- Canoe without a motor (65%) was the most common mode of travel followed by canoe with motor (26%). Approximately 9% used a boat with motor. Also, 9% of visitors used a kayak. The use of watercraft on the Waterway is carefully regulated by rule.
- Approximately 39% of visitors used an outfitter for transportation services and 16% for equipment such as canoes. Three percent of visitors hired a guide to lead them down the watercourse.
- Most visitors (90%) had previously visited a remote or undeveloped river area before this trip to the Allagash Wilderness Waterway. Approximately 27% of visitors reported this was their first trip to the Allagash Wilderness Waterway.

Visitors were asked a number of questions in order to better understand travel patterns and use of campsites.

- More than one reason was given for most respondents in choosing a particular access point. The most frequently given reason was familiarity with the access point (49%). A number of respondents (29%) indicated "other" and the reasons given in this category ranged from recommendations made by a friend or guide, closure of certain access points, desirability of a just a river trip or conversely of boating on a lake, or provides the longest trip, among many others.
- Among the top reasons given by visitors for not choosing other access points were time constraints (31%) and not interested in other access points (31%). Possibly related to time constraints was another stated reason "too far to destination from access point" (20%).
- Over half of the respondents identified the entry point of their trip at the Chamberlain Thoroughfare (32%) or Churchill Dam (26%). Approximately 13% of visitors indicated the Umsaskis Thoroughfare. Smaller percentages of visitors entered at other points including several stream tributaries.
- Visitors reported some level of use at all designated campsite locations with the exception of the Upper Crow's Nest located on Chamberlain Lake. Certain campsites received much more use than others, for example, five campsites had a total of 324 overnight stays.

- Most visitors (36%) identified the exit point of their trip at the Allagash Village/St. John area. Approximately 15% of visitors indicated Churchill Dam and 13% Chamberlain Bridge.

Visitor Experiences

- Most visitors (74%) reported their experience as being rated as an A, very good. Twenty-three percent of the visitors rated their trip a B, good. A small percentage of visitors rated their trip as C, fair (2%), and even lower D, poor, and E, very poor (less than 1% each). The most frequently mentioned experience associated with a positive evaluation was weather, scenic/natural beauty, solitude/remoteness, clean sites, few people, and wildlife. The most frequently mentioned experience associated with a negative evaluation was weather, fishing and water conditions, and number of other visitors.

- Those experiences or conditions receiving the highest proportion of "very important" ratings among visitors included the natural environment (83%), no litter or waste (79%), exploration and remoteness (73%), personal and social experiences (64%), solitude (59%), and management condition (51%).

- It is evident that the Allagash Wilderness Waterway serves a diverse group of visitors who have different interests and abilities. The highest proportion of "slightly important" or "not at all important" ratings by visitors were hunting, fishing, and gathering (40%) and number of users (36%). However, other visitors rated these same experiences "very important" for example, hunting, fishing, and gathering (31%) and number of users (24%).

- Nearly one half of the visitors reported that they rejected the first available campsite. One-third of the visitors reported rejecting the site because of its condition. Approximately 38% of visitors indicated they rejected a site because of its location. Many reasons were given, but most focused on being too close to another occupied campsite (44%) or the site being a multi-cell campsite (29%).

- The vast majority of visitors (97%) indicated that recreation experiences like the Allagash Wilderness Waterway are "extremely important" (77%) or "very important" (20%) to them.

Visitor Preferences for Resource and Social Conditions

- Those attributes or conditions for campsites receiving the highest proportion of "very important" or "important" ratings by a high majority of visitors included amount of litter present (96%), level ground for tent (94%), dry ground (91%), and ridge poles attached to picnic tables (80%).

- There is variability in the importance of other campsite attributes and conditions. For example, good fishing nearby campsite was rated by 32% of visitors as being "very important" as compared to 27% of visitors "not at all important." Also, good swimming nearby the campsite was rated by 47% of visitors as being "very important" or "important," and 53% of visitors rated this item as being "slightly important" or "not at all important."

- Naturalness conditions at a campsite varied in importance to visitors. For example, some visitors rated "not at all important" the number of trees with exposed roots at campsite (35%), number of trails/paths other than to privy and water access (26%), and number of trees with nails, hooks, ax marks, etc. (20%). In contrast other visitors rated these same items as being "very important" or "important" such as the number of trees with exposed roots at campsite (29%), number of trails/paths other than to privy and water access (34%), and number of trees with nails, hooks, ax marks, etc. (49%). Fifty-five percent of visitors rated "very important" or "important" for rustic improvements at campsite as compared to 45% that rated this item "slightly important" or "not at all important."

- Most visitors (71%) indicated that the number of other people they saw at campsites was "about right." However, there 18% of visitors felt that they "saw too many" and 1% reported that they "saw

way too many." In contrast, there were a few visitors who felt the opposite, reporting that they felt the number of other people as "saw too few" (1%) or "saw way too few" (2%).

- Most visitors (69%) indicated that the number of other people they saw while traveling on the watercourse was "about right." However, there were approximately 14% of visitors who felt that they "saw too many" and 3% reported "saw way too many." In contrast, there were a few visitors who felt the opposite reporting that they felt the number of other people as "saw too few" (2%) or "saw way too few" (1%).

Conclusions

This research is intended to help the Bureau of Parks and Lands and others interested in the management of the Allagash Wilderness Waterway. Quality in outdoor recreation can be defined as the degree to which recreation opportunities provide the experiences for which they are designed and managed. Key to protecting the backcountry experiences of the Allagash Wilderness Waterway is an understanding of the different aspects of the visitor experience and recognizing which of these are important to visitors. Our research suggests that there are different types of visitors to the Allagash Wilderness Waterway and they place different levels of importance on recreation opportunities and conditions. In this report, management implications and suggested further research focus on the diversity of use of the Allagash Wilderness Waterway in order to maximize the quality of the experiences while protecting the unique natural setting.

INTRODUCTION

The Allagash Wilderness Waterway is a 92-mile-long ribbon of lakes, ponds, rivers, and streams located in northern Maine. Starting with a chain of lakes controlled by dams, the river drops northward in the heart of Maine's vast commercial forests. A canoe trip to complete the length of the watercourse typically takes eight days and features nine miles of whitewater challenge of Class II with some Class III water at Chase Rapids above Umsaskis Lake and a portage around the 40-foot Allagash Falls. The state enacted legislation in 1965 for an Allagash Wilderness Waterway, and in 1970 it was the first state-administered area to be included in the Wild and Scenic Rivers System designated as "wild" by the Secretary of the Interior at the request of the governor. A Maine bond act approved $1.5 million for land acquisition, matched by the federal Land and Water Conservation Fund dollars.

The management of the watercourse is conducted by the Bureau of Parks and Lands within the Department of Conservation. In 1999, a management plan was approved for the Allagash Wilderness Waterway. The experience most Allagash anglers, canoeists, and winter users seek, based upon customer surveys conducted in 1997 and 1998, is one of self-reliance, remoteness, wilderness, and quiet—solace from the urban and suburban world (Maine Department of Conservation 1999). The plan established a concept defining "wilderness character" for the restricted zone and the watercourse. There are eight items that define the wilderness character concept that include types of recreational activities, access, preservation of historical and cultural artifacts, protection of natural resources, types of recreational experiences, and management strategies (Appendix A). Also, the plan identifies seven Allagash Wilderness Waterway management policies to guide the Bureau, landowners, and other resource management agency activities (Appendix B).

Providing quality recreational experiences while preserving the natural character of the Allagash Wilderness Waterway poses some significant challenges. Primary among these is the unique combination of natural setting and accessibility, and nearness to major population centers in the United States and Canada. The waterway is within a day's drive of 32 million people, and is well known regionally as an excellent canoe trip with summer water and relatively easy, enjoyable whitewater. It should be noted that visitation has actually declined at the Allagash Wilderness Waterway from the peak visitation periods of the 1970s and 1980s. However, national assessment of demand and supply trends (Cordell et al. 1999) as well as the Maine State Comprehensive Outdoor Recreation Plan (Maine Department of Conservation 2003) predict increases in the visitor demand for remote recreation opportunities.

Key to protecting the backcountry experiences of the Allagash Wilderness Waterway is an understanding of the different aspects of the visitor experience and recognizing which of these are important to visitors. These indicators of experience are measurable variables that help define the quality of the recreation experience and standards that define the minimum acceptable conditions (Manning 1999). Good indicators are practical to measure quantitatively, sensitive to the type and amount of use, and potentially responsive to management control (Lucas and Stankey 1985; Watson et al. 1998). They are used in managerial planning cycles such as Limits of Acceptable Change (Stankey et al. 1985) along with standards to guide the implementation of management strategies and monitoring efforts.

Several studies examining indicators of quality have revealed some variables to be more important than others (Manning 1999). For example, litter and other signs of visitor use impacts appear to be more important to recreation users as compared to management-related impacts such as signs and presence of rangers. Social indicators of quality, especially those dealing with behaviors or types of other user groups at secluded campsite locations, are more important than ecological indicators. Visitors to more primitive areas or sites may be generally more sensitive to a variety of potential indicators of quality than visitors to more highly used and developed areas or sites. On the Allagash Wilderness Waterway, users have access at designated boat landings and remote access through stream tributaries and a wide range of water-oriented opportunities. The situation suggests the need to understand the diverse recreation experiences and indicators of quality.

Matching the experiences visitors seek with opportunity settings best suited to providing those experiences is one of the major challenges to the outdoor recreation manager (Clark and Stankey 1979). On one hand, there is a need to understand the decisions made by the visitor. A user allocates personal resources (primarily time and money) to produce a desired recreational experience (Jubenville 1986). Users engage in a leisure activity with the expectation that it will fulfill selected needs, motivations, or other desired states (Schreyer 1986). Daigle et al. (2002a) report that choice of a particular leisure activity may not only be closely

related to the specific benefits people derive, or believe they derive, but also tied to the perceived likelihood that the benefits will be produced. On the other hand, there is a need to understand the consequences of decisions made by management. For example, a manager provides a site by combining various managerial inputs (physical development, regulation, resource management) with the specific environmental setting (Jubenville 1986).

Identifying the consequences of management actions is extremely important because those actions can attract or deter a given clientele group to a particular setting (Clark and Stankey 1979). For example, while some users may approve of management actions (e.g., easier access vs restricting access) others may disapprove and be forced to adjust expectations (seeing more users vs needing to travel more distance to access point). Increasing access may change the type or number of visitors, and that in turn may decrease the likelihood of fulfilling certain user desires such as secluded travel and camping. In this scenario a certain clientele group may be displaced because the setting is not likely to meet their needs. Conversely, a similar scenario could be created for actions related to restricting access and ultimately leading to displacement of visitors with other preferences. Understanding these dynamics may be especially important in terms of a "home range" for assessing relative availability of, and demand for, different types of place-related opportunities for activities and experiences sought within a particular region (Daigle et al. 1994). The selection of appropriate management actions is especially challenging for the Allagash Wilderness Waterway when a range of uses and experiences are embraced by the guiding wilderness character concept, legislation, and policies.

The research reported here is intended to help the Bureau of Parks and Lands and others interested in the management of the Allagash Wilderness Waterway:

1. understand who visits the watercourse, including activities, method of travel on the waterway, length of stay, types of groups, previous experience, place of residence;

2. understand why people visit, including experiences and level of satisfaction, and assessment of travel and camping conditions encountered on their recent trip; and

3. determine importance of campsite attributes, including preferences for resource and social conditions encountered at campsites and while traveling on the watercourse.

SURVEY METHODS

Information was collected from visitors using two different survey instruments: a short visitor survey card and a more extensive mail-back questionnaire. In most cases visitors were greeted in person upon obtaining a use permit at one of three checkpoints near the Allagash Wilderness Waterway. Visitors were briefly introduced to the purpose of the study and asked to participate. Timing of implementing the study precluded face-to-face contact with early spring visitors. Consequently, a letter was mailed to each permit holder that was missed in this case, stating the purpose of the research project, and requesting that they participate in the study. Timing of visitor contacts and methods of contact varied slightly because of these differences.

Season of Use

The Allagash Wilderness Waterway exhibits a use season typical of remote backcountry areas in Maine. There is growing use of the watercourse in the winter for snowmobiling and ice fishing activities. Fishing using motorboats and canoes attracts some spring visitors. Summer use is the most popular period, particularly in the late summer months after fly season. Canoeing and camping use continue well into the autumn. Temperatures are still relatively warm then, and leaves are changing colors. A fall hunting season for deer, moose, and bear extends use until the end of November. Our visitor contacts were from May to November.

Sources of Samples

While sampling consistency is desirable, some variation occurred. Most contacts with visitors were made at the Telos, Six Mile, and the Allagash checkpoints by employees for North Maine Woods, a non-profit company that manages public use of private lands in northern Maine. Most access to the AWW is gained over roads traversing these private lands. Over the course of the spring, summer, and fall sample period there were staff changes at checkpoints for the North Maine Woods. During these personnel changes, protocols for contacting visitors about the study needed to be re-initiated and meanwhile visitors were missed and not asked to participate in the study. Finally, as noted above, there were certain times during the sample period when visitors were contacted directly through the mail based upon permit information. This was required in the early spring when permits were issued prior to the development of the on-site interview protocol.

Onsite Interview

Allagash Wilderness Waterway users were sampled at the time of registration, the first contact with a North Maine Woods receptionist. Users were briefly introduced to the purpose of the study and handed a description on an Allagash Wilderness Waterway Visitor Study card. If users agreed to participate, the back side of the card was completed by one person from the party, taking approximately two to four minutes, requesting intended access and exit point, length of visit, type of group, size of group, and asking whether or not they had previously visited the Allagash Wilderness Waterway. The intent was to keep on-site visitor burden at a minimum, concentrating on obtaining enough information to allow some conclusions about users and to allow testing for differences between response and non-response groups on a mail-back questionnaire.

When individuals were contacted at the North Maine Woods checkpoints, they were asked to participate in the study. They were told that participation was completely voluntary and that all responses made would be confidential. A copy of the statement below was handed to them at the point of contact:

> Your participation in this survey is voluntary. Since each person mailed a survey will represent many others who will not be surveyed, your cooperation is extremely important. The answers you provide are confidential. An identification label used on mail-out questionnaires is for mailing purposes only. Our results will be summarized so that the answers you provide cannot be associated with you or anyone in your group or household. Your name and address will not be given to any other group or used by us beyond the purposes of this study.

The collected on-site interviews were reviewed for completeness, accuracy, and consistency. Following the review, information from the on-site interview was entered into a database. A tracking number was assigned to each visitor intercepted in the field. This number served as the unique identifier that linked the responses from the on-site interview to responses on the completed and returned mail-back questionnaire.

Mail Questionnaire Procedures

A mail survey was used to conduct the self-administered questionnaire to the sample of Allagash Wilderness Waterway users. The Total-Design Method (TDM), a standardized methodology consisting of questionnaire construction and survey implementation was utilized as a guide for the mail survey (Dillman 1978). Below is a description of the mail survey components including (1) the questionnaire, (2) a cover letter of explanation, (3) an envelope for sending the mail survey, (4) a stamped envelope for returning the questionnaire, and (5) organization of sending the mail survey.

The questionnaire was designed to elicit information from respondents on a variety of variables to determine characteristics of the visit, including activities, method of travel on the waterway, length of stay, camping conditions encountered, determine visitor preferences, including satisfactions with resource and social conditions encountered at campsites and while traveling on the watercourse (Appendix C). Technical review provided by Bureau of Parks and Lands staff and experts who have conducted research on wilderness and backcountry recreation assisted in the development of questions, the sequence of questions, and wording of the final questionnaire. The questionnaire had a cover page with the title of the survey followed by eleven pages of questions including a final page of the questionnaire that contained an open-ended section for comments.

A cover letter was sent with the questionnaire to explain the purpose of the survey to the respondents and to encourage a high response rate. The University of Maine logo with the Parks, Recreation & Tourism program was professionally reproduced on high quality bond paper. A software program merged the name and address of the respondent on each cover letter. The content of the letter contained the following: (1) identification of the organization conducting the study, (2) an explanation of the purpose of the study, (3) the importance of why the respondent needed to answer the questionnaire, and (4) an explanation to the respondent that the information provided would be held in the strictest confidence. A handwritten signature of the researcher was applied to all cover letters.

Extra attention was given to details such as the envelope and cover letter to emphasize the difference of this mail survey from other mail surveys more common to American households. A large envelope was used to mail the questionnaire, cover letter, and a business reply envelope. The name and address of each respondent was handwritten on the envelope to make the appearance of the mail survey more personal. Regular postage stamps as opposed to mechanical stamping were used to mail the surveys.

A business reply envelope was mailed with the questionnaire and cover letter and used by respondents to return the completed questionnaires. A

return mailing address was printed on the business reply envelope. The right corner of the envelope stated NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES. An account (business reply postage) was established with the Maine Bureau of Parks and Lands so that postage was charged only if respondents used the envelope for returning questionnaires. A bar code printed on each business reply envelope indicated the appropriate account to charge when the envelope was returned to The University of Maine. A substantial amount was saved in postage costs by using this method.

A system was created to monitor returned questionnaires and also to facilitate additional mailings of the self-administered questionnaire. A master data table contained the following: (1) unique respondent ID number, (2) name and address, (3) mailing Number One, Number Two, and Number Three, and (4) notes and the non-deliverable questionnaires. A unique identification number was permanently assigned to the respondent for the duration of the mail survey. The number was written on the last page of the questionnaire and used to monitor returns. The name and address of each respondent was cross-referenced with the questionnaire identification number. A date was recorded when the completed questionnaire was received at The University of Maine and noted in the applicable mailings Number One, Number Two, and Number Three boxes. Notes were recorded on data sheets describing outcomes such as non-deliverables of the initial mailings.

The methodological literature on follow-up mailings suggests that it is an effective method for increasing return rates in mail surveys (Babbie 1992). The timing of follow-up mailings is important and the Total Design Method was used as a guide for sequencing follow-up mailings (Dillman 1978). The completed questionnaires returned to The University of Maine were processed on a daily basis. A careful record of respondents and non-respondents were maintained to reduce the burden of respondents receiving follow-up mailings. After the initial mailing, a postcard reminder was mailed in one week to all respondents. The purpose of the postcard was to remind the respondent to fill out and return the questionnaire and to thank him or her if the completed survey had been already filled out and mailed back. The first follow-up mailing of a replacement questionnaire was mailed three weeks after the first mailing. The second replacement questionnaire was sent six weeks after the first mailing. The same detail to components of the self-administered questionnaire for the first mailing was used in preparing the two follow-up mailings. The mail surveys contained a new copy of the questionnaire, business reply envelope, and slightly different cover letters. Signatures on the cover letters and respondent addresses on the envelopes were handwritten. A data table was used to calculate response rates throughout phases of sending the mail survey.

A codebook was produced for each data collection instrument. The codebook defined variables in terms of type, location within the data file, field width, and description of variable. The data was then electronically keyed into an Excel™ spreadsheet. The Excel™ spreadsheet defined an acceptable range of values for each variable to improve the accuracy of data entry. In addition, a random check of entered data was compared with corresponding questionnaires to assess the accuracy of data entry. All errors or questions were flagged during the electronic data entry and researched to correct answers entered into the database. The Excel™ file was converted to a database suitable for analysis. The resulting data was analyzed using the Statistical Package for the Social Sciences™ (SPSS 1999).

Recruitment and Participation

More than 350 visitor groups to the Allagash Wilderness Waterway were contacted in the field and asked to participate in the study. Almost all those who were asked agreed to participate in the study with only a dozen or so who did not want to participate in the study. Also, 250 visitors who had registered during the spring before the on-site interviews began were mailed a letter requesting that they participate in the study. Seven of the mailed letters were returned because they were not deliverable. A total of 145 survey registration cards were completed and returned. Four cards provided trip information but no name or address and therefore were excluded from the mail survey portion of the study. Of the approximate 600 visitor groups contacted, 531 agreed to receive and complete the mail survey (Table 1).

Of the 531 surveys mailed to visitors, four were non-deliverable and four were voided because visitors did not visit the Allagash Wilderness Waterway, but another area close to waterway. A total 454 completed questionnaires were returned, providing an overall response rate of 87%. Table 2 shows the number of on-site cards completed and the number who returned mail surveys and percent response rate by residence. Figure 1 shows the proportion of visitors by time of year who agreed to participate in the study and returned their questionnaires.

Visitors who returned their questionnaires were compared to those who did not return their mail

Table 1. Visitors who completed on-site cards by sample location.

Sample location	Completed survey cards	Distribution
	#	%
Telos Checkpoint	367	69
Six Mile Checkpoint	121	23
Allagash Checkpoint	31	6
Other	12	2
Grand Total	531	100

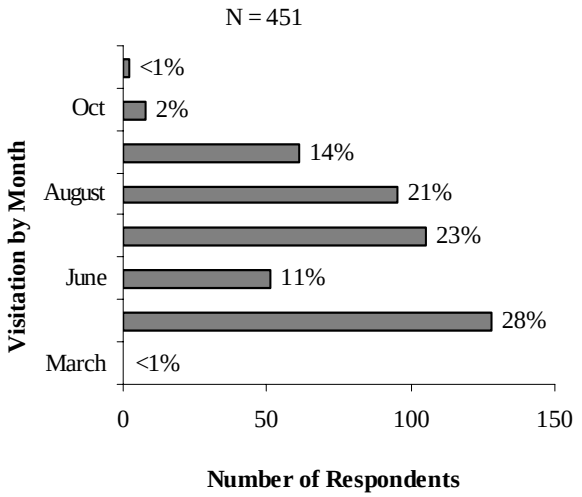

Figure 1. The proportion of visitors by time of year that agreed to participate in the study and returned their questionnaires.

questionnaires on several onsite interview questions to check for nonresponse bias. No significant differences were found between visitors who responded and those who did not. Respondents did not differ from nonrespondents on whether they were day users or overnight users (X^2 = 2.14, 1 df, P = .143), type of group (X^2 = 2.75, 4 df, P = .600), size of group (X^2 = 13.37, 14 df, P = .498), whether or not it was the first time visiting the Allagash Wilderness Waterway (X^2 = 1.51, 1 df, P = .219), or length stay (ANOVA, F = .649, P = .824).

RESULTS

The returned questionnaires were coded and the information was entered into a computer using a standard statistical package. Frequency distributions and cross-tabulations were calculated for the coded data, and responses to open-ended questions were categorized and summarized. We have organized the reporting of this data into three broad categories involving (1) visitor use characteristics, (2) visitor experiences, and (3) visitor preferences for resource and social conditions on the Allagash Wilderness Waterway.

Visitor Use Characteristics

Figure 2 shows visitor group sizes, which ranged from one person to 23 people. The survey participant with a group of 23 was with a Scouts organization. However, registration records suggest that this group consisted of two smaller parties from the same scouting organization. The mean, median, and mode for group size were 4.5, 4, and 2 respectively. Thirty-three percent of visitor groups con-

Table 2. Proportion of visitors who completed on-site cards and returned mail surveys by residence.

Residence	Number completing on-site survey cards	Number who returned mail survey	% of total respondents
Maine	307	265	86%
Massachusetts	59	51	86%
New Hampshire	41	32	78%
Connecticut	24	23	96%
New York	21	18	86%
Vermont	16	16	100%
Pennsylvania	13	11	85%
New Jersey	11	11	100%
Rhode Island	7	7	100%
Florida	5	5	100%
Other states	15	12	80%
Canada	2	2	100%
Germany	1	0	0%
England	1	0	0%
Total	523	454	87%

sisted of two people, while another 29% were visitors in groups of three or four. Fifteen percent of groups consisted of five to seven visitors. Another 16% were visitor groups of eight or more. Twenty-seven percent of the groups had at least one child under the age of 16 traveling with the group (Figure 3). The number of children under 16 traveling with groups ranged from one to 13.

Approximately 6% of the visitors were traveling alone. Of groups traveling with others, 62% were made up of family or family plus friends (Figure 4). Twenty-six percent of the visitor groups were composed of family and acquaintances. Nine percent indicated they were part of an organization such as scouting or club group. Groups listing themselves as "other" included guiding, summer camps, and school groups among others.

Altogether the largest proportion of visitors was from Maine (58%) followed by the other New England states: Massachusetts (11%), New Hampshire (7%), Connecticut (5%), and Vermont (4%) (Figure 5). Another 4% of the visitors were from New York. Smaller proportion of visitors came from other states such as Pennsylvania, New Jersey, and Rhode Island (Table 3). International visitors comprised <1% of the total number of respondents and all were from Canada.

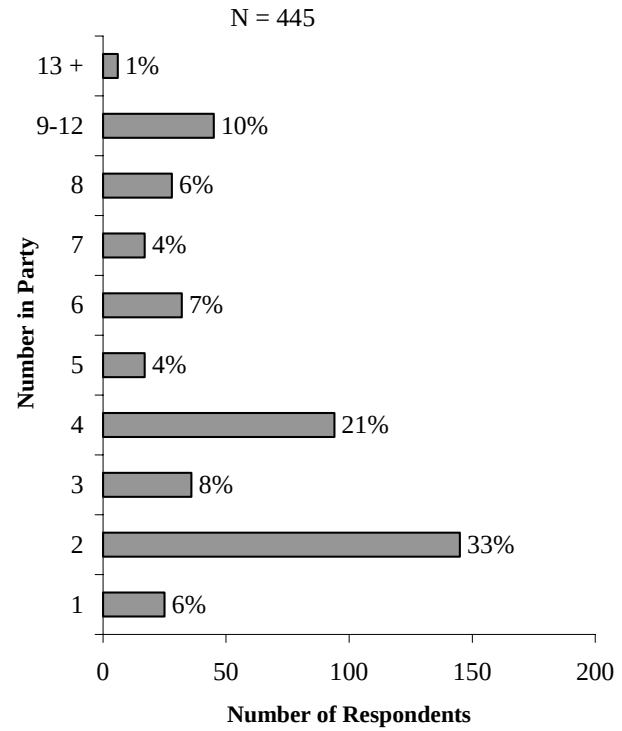

Figure 2. Visitor group sizes.

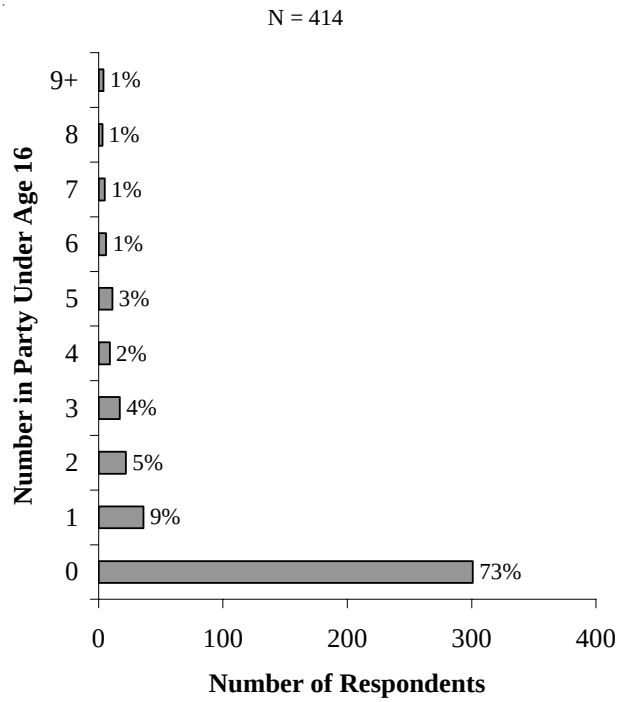

Figure 3. Groups with children under 16.

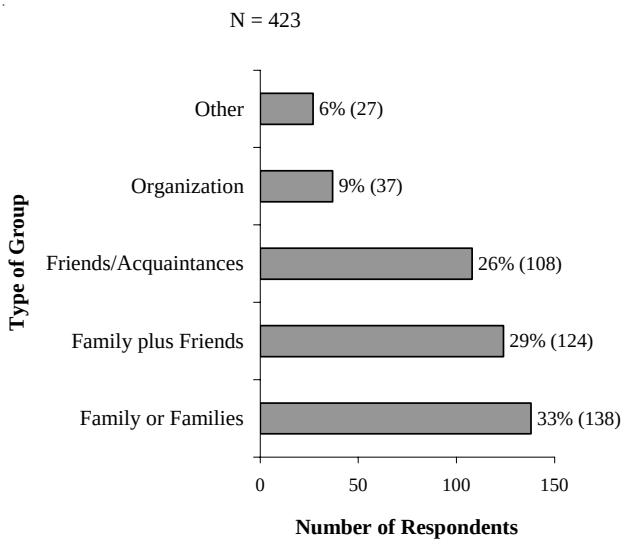

Figure 4. Visitor group types. Percentages do not equal 100 because visitors indicated more than one type of group.

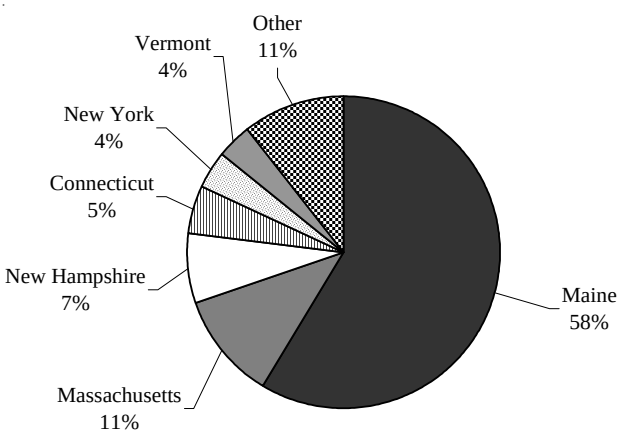

Figure 5. Proportion of visitors by residence.

Table 3. Number and percentage total of visitors.

Residence	Number of visitors	% of total visitors
Maine	265	58
Massachusetts	51	11
New Hampshire	32	7
Connecticut	23	5
New York	18	4
Vermont	16	4
Pennsylvania	11	2
New Jersey	11	2
Rhode Island	7	2
Florida	5	1
Other states	12	3
Canada	2	<1

Visitors were asked how much time they spent at the Allagash Wilderness Waterway. The vast majority of visitors indicated staying one or more nights (Figure 6). The average number of nights stayed was approximately five nights. Figure 7 shows approximately 16% of visitors staying for one or two nights. The highest proportion of visitors stayed three nights (19%) and four nights (20%). Twenty-eight percent indicated that they spent five to six nights. Approximately 18% of visitors stayed a week or more.

Table 4 shows the proportion of visitors who participated in a variety of activities at the Allagash Wilderness Waterway. Most visitors indicated multiple activities. The most common activity was camping (89%). Seventy-nine percent of the visitors indicated canoeing and 9% boating. Taking pictures was a popular activity (78%). Another 63% had fished while on this visit. More than half (51%) reported swimming in the lakes or river sections of the watercourse. Other popular activities included talking to people in other groups (49%) and visiting historical sites (37%). Approximately a third of visitors reported studying nature (35%) and hiking (32%). Twenty-five percent of visitors reported learning about the local history. Only 2% of the visitors in study reported hunting. Visitors indicated a number of "other" activities that involved watching wildlife, visiting rangers/others, climbing, stargazing, kayaking, writing, art, open-fire cooking, and others.

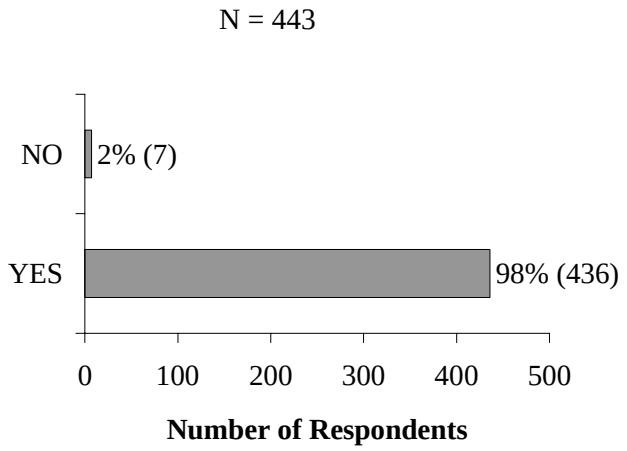

Figure 6. Overnight stay at the Allagash Wilderness Waterway.

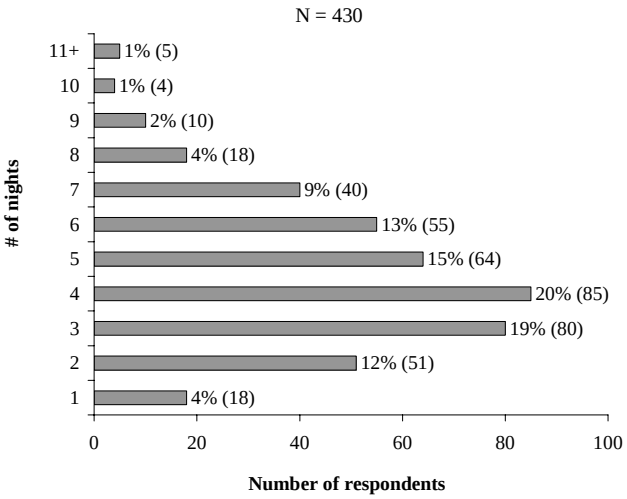

Figure 7. Number of nights at the Allagash Wilderness Waterway.

Table 4. Visitor activities.

Activity	Number of visitors	% of total visitors
Camping	402	89
Canoeing	358	79
Taking pictures	350	78
Fishing	286	63
Swimming	232	51
Talking to people in other groups	219	49
Spending time all alone	172	38
Visiting historical sites	165	37
Nature study	159	35
Hiking	143	32
Learning about local history	113	25
Picnicking	80	18
Collecting fiddleheads, berries, etc.	41	9
Boating	39	9
Other	38	8
Hunting	8	2

N = 451. Percentages do not equal to 100 because visitors could do more than one activity.

Table 5. Wildlife observed on visit.

Type of Wildlife	Number of visitors	% of total visitors
Moose	401	91%
Bald eagle	336	76%
Deer	318	72%
Blue heron	250	57%
Osprey	220	50%
Other	160	36%
Beaver	144	26%
Black bear	86	20%
Fox	53	12%
Muskrat	36	8%
Coyote	35	8%
River otter	35	8%

N = 441. Percentages do not equal to 100 because visitors saw many types of wildlife.

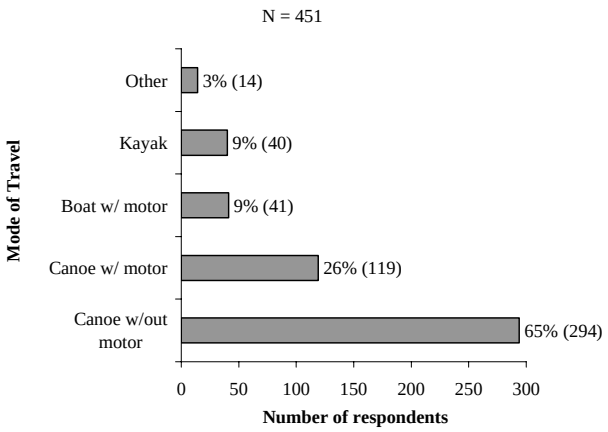

Figure 8. Mode of travel at the Allagash Wilderness Waterway. Percentages do not equal to 100 because visitors could indicate more than one mode of travel.

Visitors were asked to indicate wildlife they observed while visiting the Allagash Wilderness Waterway. The most common wildlife reported was moose (91%). More than three-quarters (76%) reported seeing bald eagles and 72% deer. More than half of visitors (57%) saw blue heron, and 50% reported seeing osprey. More than one-quarter of visitors (26%) saw beaver, and there were slightly fewer reports of other aquatic wildlife such as muskrat (8%) and river otter (8%). Approximately one-fifth of visitors (20%) reported seeing black bear and fewer visitors saw fox (12%) and coyotes (8%). Other wildlife observed included hares/rabbits, loons, ducks, geese, and many other types of birds. Also reported were fisher, mink, pine marten, bobcat, and Canadian lynx.

Figure 8 shows the proportion of visitors who used various modes of travel while visiting the Allagash Wilderness Waterway. The most common modes of travel were canoe without a motor (65%) and canoe with motor (26%). Approximately 9% of visitors reported using a boat with motor, and 9% of visitors used a kayak as a means of travel on the watercourse. Visitors indicated "other" modes of travel (3%) that included float plane, vehicle, and walking. Approximately 13% of the visitors indicated using multiple modes of travel, and in these cases most reported using a canoe without a motor as the primary mode of travel on the watercourse. The use of watercraft on the Waterway is carefully regulated by rule.

Visitors were asked if they had hired an outfitter to either provide transportation or rent equipment. Approximately 39% of visitors used an outfitter for transportation services and 16% for equipment such as canoes (Figures 9 and 10). Three percent of visitors hired a guide to lead them down the watercourse (Figure 11).

Most visitors (90%) had previously visited a remote or undeveloped river area before this trip to the Allagash Wilderness Waterway (Figure 12). The age that they had first visited ranged from ages 1 to 76. However, most visitors (60%) had first visited by age 20 (Figure 13). Thirty percent had their first visit between the ages of 21 and 40. Approximately 10% had their first visit to a remote or undeveloped river area after the age of 40. Ap-

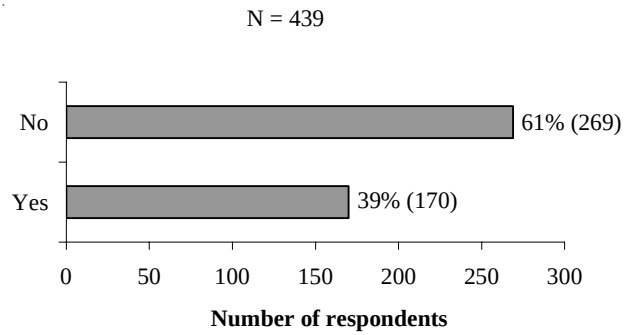

Figure 9. Did you hire an outfitter to provide transportation or vehicle shuttle?

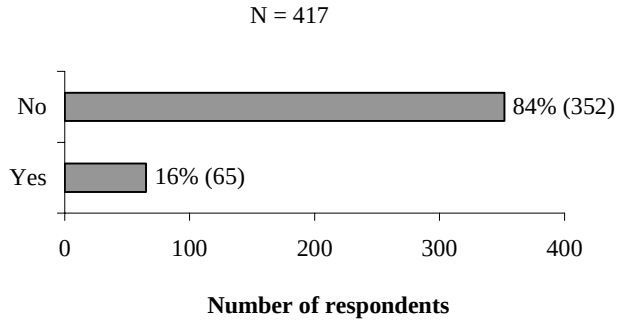

Figure 10. Did you hire an outfitter to provide equipment?

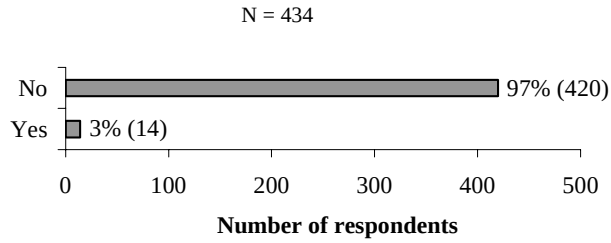

Figure 11. Did you hire a guide to lead you down the watercourse?

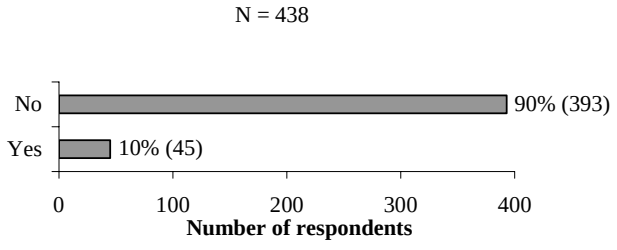

Figure 12. Was this your first visit to a remote or undeveloped river area?

proximately one-third (32%) indicated that this first visit was with their parents (Figure 14).

Most visitors (73%) reported that they had previously been to the Allagash Wilderness Waterway. Approximately 27% of the visitors reported that this was their first trip the Allagash Wilderness Waterway.

Visitors were asked a number of questions in order to better understand travel patterns and use of campsites. Visitors were asked about their preferences when deciding upon the entry point to the Allagash Wilderness Waterway. Forty-four percent of the visitors preferred to visit both new areas and same areas as compared to 34% that preferred to revisit familiar areas (Figure 16). Twenty-two percent of visitors preferred exploring new areas.

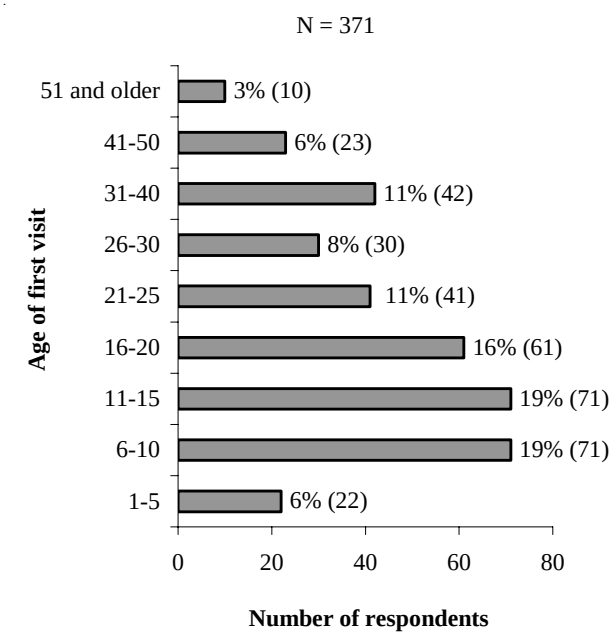

Figure 13. Age of first visit to a remote or undeveloped river area. Percentages do not equal 100 due to rounding.

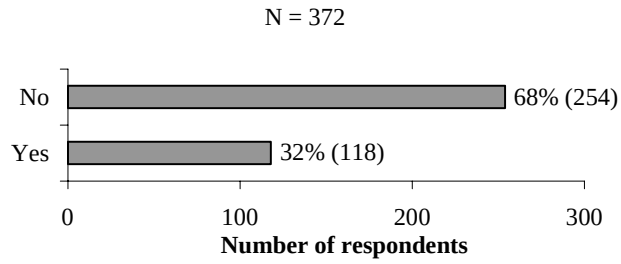

Figure 14. Was your first visit to a remote or undeveloped river area with your parents?

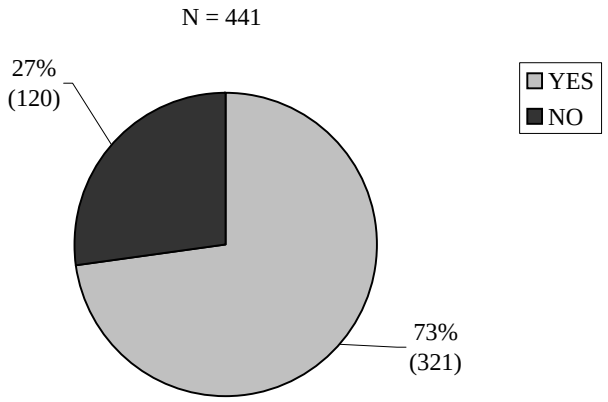

Figure 15. Have you ever visited the Allagash Wilderness Waterway before?

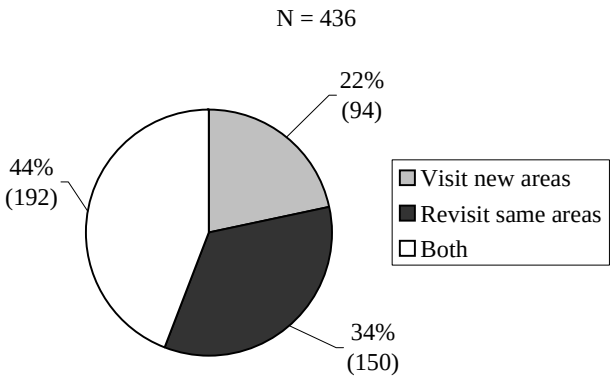

Figure 16. Reason for choosing access point on the Allagash Wilderness Waterway.

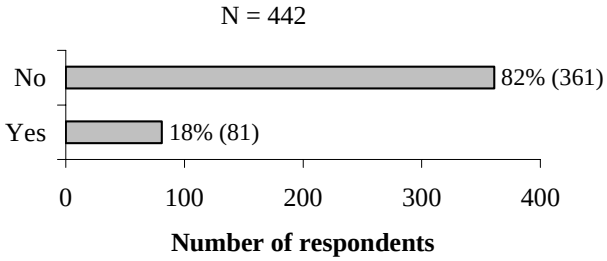

Figure 17. Did you request information about the access points on the watercourse from the Maine Department of Conservation (MDOC), Bureau of Parks and Lands before your trip?

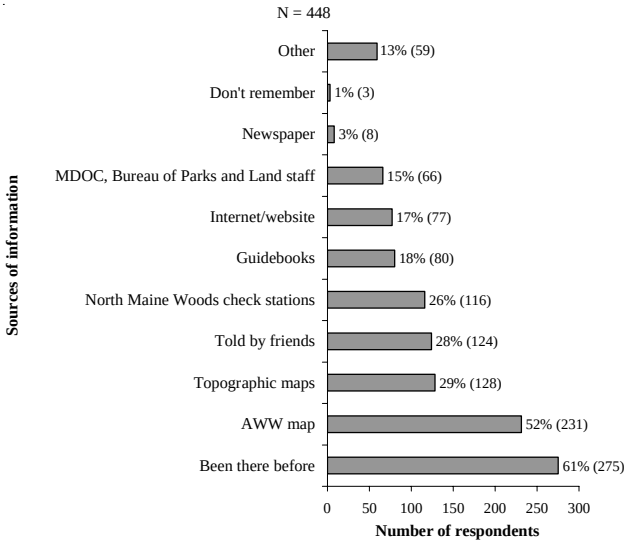

Figure 18. Sources of information to learn about access points to the watercourse. Multiple sources of information used by some visitors.

Visitors were asked if they requested information about access points on the watercourse from the Maine Department of Conservation (MDOC), Bureau of Parks and Lands before their trip. Approximately 18% indicated that they had requested information from this agency prior to the trip (Figure 17). Visitors were also asked about different sources of information they used to learn about access points to the watercourse. The most frequent response by visitors (61%) was their prior experience (Figure 18). As reported above, nearly three quarters of the visitors reported that they had previously visited the watercourse. However, numerous other sources were used such as friends (28%), North Maine Woods check stations (26%), and MDOC, Bureau of Parks and Lands staff (15%). More than half of the visitors (52%) reported using the Allagash Wilderness Waterway map. Visitors also used topographic maps (29%), guidebooks (18%), and internet/website (17%) sources.

There were a number of reasons that factored into a visitors decision to choose a particular access point (Table 6). The most frequent reason given was familiarity with a particular access point (49%). Thirty-nine percent indicated that the access point was easy. More than one-quarter (26%) of visitors reported that the quality of the fishing or hunting was the reason for the choosing the particular access point. Other reasons focused on the ability to plan for shorter (15%) or longer (14%) distance one-way canoe trips as well as to experience less crowded areas (13%). Some visitors indicated the reason for choosing the access point was a new area, providing variety. Finally, a number of respondents (29%) indicated "other" and the reasons given in this category ranged from recommendations made by a

Table 6. Reasons for choosing access point.

Reason	Number of respondents	% of total respondents	Rank
Been there before, familiarity	221	49	1
Easy access	175	39	2
Access to good fishing/hunting	114	26	4
Less distance for one-way canoe trip	66	15	5
More distance for one-way canoe trip	61	14	6
Less crowded	57	13	7
A new area, variety	35	8	8
Close to home	11	3	9
Other	131	29	3

Percentages do not equal to 100 because visitors could indicate more than one reason.

friend or guide, closure of certain access points, desirability of a just a river trip or conversely boating on a lake, provides the longest trip, attraction of certain features near the access point, and many others.

Visitors were also asked reasons for not choosing other access points (Table 7). Again, multiple reasons could have been given but among the top reasons given by visitors were time constraints (31%) and not interested in other access points (31%). Possibly related to time constraints for some visitors was the reason "too far to destination from access point" (20%). For some visitors other access points were associated with places that were "too difficult or challenging" (7%) or the water was too shallow for boating/canoeing (5%). A few visitors indicated they did not choose certain access points because they were "too crowded" (6%). A number of the respondents (22%) indicated "other," and the reasons given in this category ranged from wanted to do the longest possible route or conversely would be too long given time constraints, access not allowed, avoiding lakes with high wind, health constraints, undesirability of paddling lakes, and specific attractions at desired access point.

Table 7. Reasons for not choosing other access points.

Reason	Number of respondents	% of total respondents	Rank
Been there before, familiarity	221	49	1
Not interested in other access points	140	31	1
Time constraints	139	31	2
Too far to destination from access point	88	20	4
Too long a drive to access point	47	11	5
Watercourse travel too difficult or challenging	31	7	6
Road conditions too poor	26	6	7
Too crowded	26	6	8
Wanted to visit new area	24	5	9
Water too shallow for boating/canoeing	22	5	10
Weather	21	5	11
Lack of fishing/hunting	18	4	12
Other	98	22	3

Percentages do not equal to 100 because visitors could indicate more than one reason.

Visitors were asked to identify on a map the starting point of their trip. Most of the entry points labeled on the map by visitors corresponded with vehicle access locations printed on the map (Figure 19). More than half of the visitors identified the entry point of their trip being either at the Chamberlain Thoroughfare (32%) or Churchill Dam (26%). Approximately 13% of visitors indicated that the entry point was the Umsaskis Thoroughfare. Ten percent of visitors used Indian Stream as the entry point to the Allagash Wilderness Waterway. Some visitors (9%) indicated stream tributaries such as the upper Allagash stream and Mud Pond carry into Chamberlain Lake. Other points (4%) were located around Umsaskis Lake and Telos Landing as well as the Johns Bridge and Bissonette Bridge. Most of the other entry points were authorized access points.

If visitors stayed overnight on their trip they were asked to identify the campsite used and number of nights they stayed at the campsite. Table 8 shows 81 designated campsite locations by their approximate north to south physical location along the Allagash Wildeness Waterway. For each campsite, the total number of respondents who indicated staying is reported, total number of visitor nights, mean number of nights, as well as the range of number of nights.

As noted earlier in this report most of the visitors in this study (98%) reported staying at least one or more nights at a campsite location (see Figure 6). Visitors reported some level of use at all designated campsite locations with the excep-

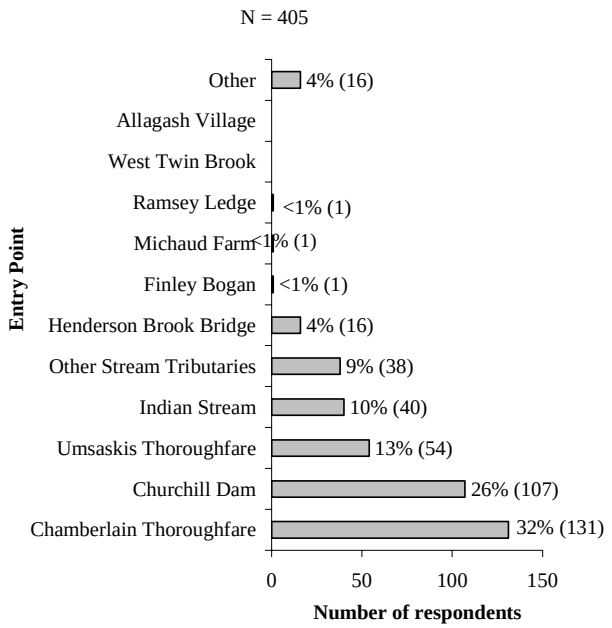

Figure 19. Entry points to the Allagash Wilderness Waterway.

tion of the Upper Crow's Nest located on Chamberlain Lake (Table 8). However, the use patterns varied by campsites ranging from 51 respondents staying at the Allagash Falls campsite to one respondent staying overnight at the Ede's campsite. The most popular campsites were Allagash Falls, Jaws, Churchill Dam, Inlet, and Scofield Point with 40 or more respondents reporting use at these campsites and consequently a total of 324 overnight stays. The popular campsites are located near portages that connect visitors to another lake or around impassable sections such as the falls on the Allagash River.

Generally, the popular campsites represented by the number of respondents reporting use of a campsite also resulted in higher total number of nights. However, East Twin Brook campsite had 30 respondents indicating use and the reported number of nights stayed was 30 suggesting this campsite may be used for transition between points. In contrast, the Thoreau campsite had 38 respondents and the total number of nights was 64 suggesting a multi-night campsite destination. The range of nights that visitors stayed at the Thoreau campsite was between one to seven nights and the mean number of nights was 1.68. A similar pattern is observed for campsites that had 20 to 29 respondents reporting use, for example, Big Brook East (21) as compared to the Pump Handle (56) total nights.

The number of nights at a campsite location may depend on visitor intentions such as staying at a certain lake for camping and fishing as compared to fulfilling a desire to traverse the length of the watercourse. There were "other" locations where 11 visitors indicated camping and a few were determined to be outside of the waterway. In some instances visitors stayed at the Jalberts' or Nugents' camps. Finally, a few visitors likely stayed at Lock Dam campsite, but circled the Lock Dam historical site symbol.

Visitors were asked to identify on a map the ending point of their trip. As Figure 20 shows more than a third of the visitors (36%) identified the exit point of their trip being outside the north end of the watercourse at the Allagash Village/St.John area. Approximately 15% of visitors indicated that the exit point was the Churchill Dam. Thirteen percent of visitors used Chamberlain Bridge and 7% used the Umsasksis thoroughfare. Several visitors indicated Michaud Farm, Henderson Brook Bridge, as well as stream tributaries such as the upper Allagash stream (6%–1% each). One of the 17 other points was at John's Bridge while the others were at authorized access points such as Lock Dam (by plane), Bissonnette Bridge, and Telos Landing.

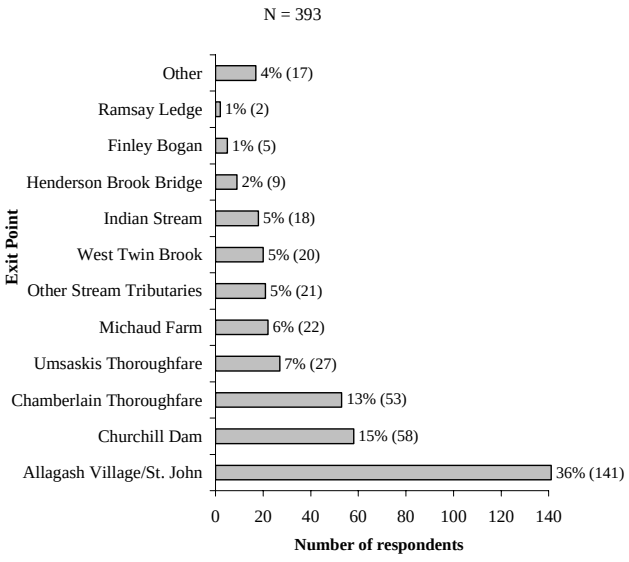

Figure 20. Exit points from the Allagash Wilderness Waterway.

Table 8. Visitor use of campsites at the Allagash Wilderness Waterway.

Campsite	Number of Respondents	Number of Nights	Mean Number of Nights	Range
East Twin Brook	30	30	1.00	1
Big Brook North	10	11	1.10	1–2
Big Brook East	21	21	1.00	1
Big Brook South	9	10	1.11	1–2
McKeen Brook	14	14	1.00	1
Falls Bank	9	10	1.11	1–2
Allagash Falls	51	55	1.08	1–2
Taylor Landing	9	11	1.22	1–2
Michaud Farm	13	14	1.08	1–2
Ramsey Ledge	12	13	1.08	1–2
Cunliffe	5	6	1.20	1–2
Cunliffe Depot	13	15	1.15	1–2
Bass Brook	6	6	1.00	1
Deadwater North	13	13	1.00	1
Deadwater South	4	4	1.00	1
Five Finger Brook North	19	20	1.05	1–2
Five Finger Brook West	13	14	1.08	1–2
Five Finger Brook South	14	14	1.00	1
Hosea B	8	8	1.00	1
Croque Brook	10	10	1.00	1
Turk Island	17	24	1.41	1–4
Outlet	21	21	1.00	1
Round Pond Rips	10	11	1.10	1–2
Tower Trail	16	18	1.13	1–2
Inlet	42	51	1.21	1–3
Squirrel Pocket	12	13	1.08	1–2
Back Channel	16	19	1.19	1–2
Sweeney Brook	17	17	1.00	1
Cunliffe Island	14	15	1.07	1–2
Long Lake Dam	27	28	1.04	1–2
Lost Popple	8	8	1.00	1
Sams	22	24	1.09	1–3
Jalbert	23	26	1.13	1–3
Grey Brook	23	29	1.26	1–6
Pine	13	18	1.38	1–4
Sandy Point	35	57	1.63	1–7
Ledges	26	46	1.77	1–7
Chisholm Brook	22	28	1.27	1–3
Meadows	11	14	1.27	1–4
Churchill Dam	46	78	1.70	1–10
Jaws	48	76	1.58	1–7
High Bank	13	15	1.15	1–2
Scofield Point	40	54	1.35	1–6
Scofield Cove	16	23	1.44	1–4
Little Eagle	23	45	1.96	1–7
Fred King	13	32	2.46	1–7
Zeigler	16	22	1.38	1–3
Pump Handle	28	56	2.00	1–9
Priestly Point	8	12	1.50	1–4
Lone Pine	4	4	1.00	1
Farm Island	27	40	1.48	1–5
Smith Brook	6	16	2.67	1–6
Thoreau	38	64	1.68	1–7
Pillsbury Island	23	71	3.09	1–20
McCarren	8	8	1.00	1
Lost Spring	7	11	1.57	1–3

Table 8. Continued.

Campsite	Number of Respondents	Number of Nights	Mean Number of Nights	Range
Crow's Nest	5	13	2.60	1–6
Upper Crow's Nest	0	0	0	0
Little Allagash Falls	8	8	1.00	1
Outlet	6	6	1.00	1
Island	3	5	1.67	1–3
Ede's	1	2	2.00	2
Carry Trail	6	16	2.67	1–4
Cove	2	6	3.00	1–5
Ice Cave	5	12	2.40	1–4
Sandy Point	5	11	2.20	1–4
Ledge Point	13	26	2.00	1–4
Lock Dam	31	34	1.10	1–3
Ellis Brook	16	19	1.19	1–3
Shady	4	5	1.25	1–2
Donnely Point	10	12	1.20	1–2
Mud Brook	10	33	3.30	1–8
Gravel Beach	15	16	1.07	1–2
Rocky Cove	10	10	1.00	1
Ledge Point	13	15	1.15	1–3
The Arm	7	20	2.86	1–5
Thoroughfare	12	18	1.50	1–4
Boy Scout	11	13	1.18	1–2
High Bank	11	22	2.00	1–4
Field	6	7	1.17	1–2
Telos Landing	5	7	1.40	1–3
Other	11	23	2.05	1–4

Visitor Experiences

Visitors were asked to rate their trip based upon a grade system of A, very good; B, good; C, fair; D, poor; and E, very poor. Figure 21 shows that most visitors (74%) reported their experience as being rated as an A, very good. Twenty-three percent of the visitors rated their trip a B, good. A small percentage of visitors rated their trip as C, fair (2%), and even smaller D, poor, and E, very poor (less than 1% each). Visitors were asked to identify key experiences that contributed to their overall experience. Many visitors indicated several experiences that contributed to their overall evaluation of their trip. Table 9 shows the key experiences that contributed to overall positive evaluations. The most frequently mentioned experience by visitors related to weather, scenic/natural beauty, solitude/remoteness, clean sites, few people, and wildlife. Table 10 shows the key experiences that contributed to overall negative evaluations. The most frequently mentioned experience for these visitors was the weather, fishing and water conditions, and number of other visitors.

Figures 22a through 34a show the degree of importance for experiences related to recreation opportunities and conditions on the Allagash Wil-

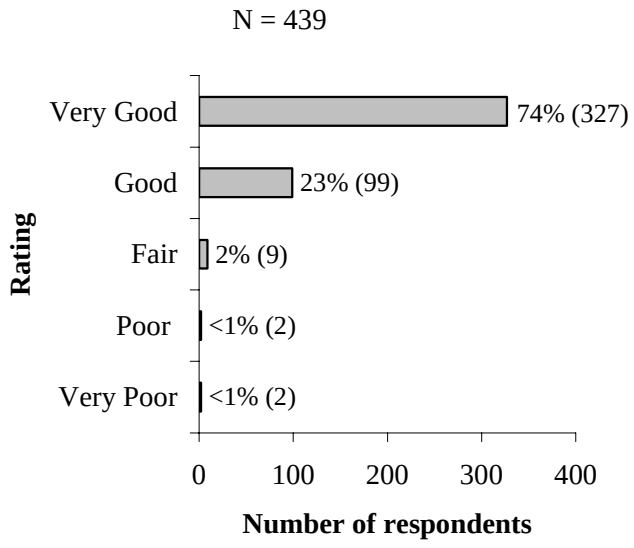

Figure 21. How would you rate this trip?

Table 9. Key experiences that contributed to a positive evaluation.

Key experiences	Number of times mentioned
Good weather	91
Scenic/natural beauty	85
Solitude/remote	76
Clean sites	69
Wildlife	62
Not crowded	59
Friends/family	47
Wildness	45
High water conditions (good)	45
Peace and quiet	31
Friendly rangers/people	30
Challenge	16
Bugs not bad	15
Other reasons	42

N=395. Many visitors mentioned more than one key experience.

Table 10. Key experiences that contributed to a negative evaluation.

Key experiences	Number of times mentioned
Bad weather	21
Bad fishing	17
Poor water	12
Too crowded	10
Bad site	7
Motors present	5
Lack of wildlife	3
Bugs bad	2
Received warnings	2
Other problems	7

N = 395. Many visitors mentioned more than one key experience.

derness Waterway. Those experiences or conditions receiving the highest proportion of "very important" ratings included the natural environment (enjoy the view from the lake or river) (83%), no litter or waste (amount of litter along the watercourse and at campsites) (79%), exploration and remoteness (an area free of man-made or very limited man-made noises; remoteness from cities and people; and adventure and challenge) (73%), personal and social experiences (get away from daily routine; develop a sense of self confidence; chance to think and reflect; simplify daily needs) (64%), solitude (a small, intimate group experience; isolated from other groups; privacy) (59%), and management condition (condition of the watercourse including the campsites and portage trails; publicized rules and regulations; extent of naturalness conditions at the designated campsites) (51%).

Other experiences receiving a high proportion of "important" rating included information on watercourse (finding suitable campsites, information on where other users are likely to be; finding an unoccupied campsite) (48%), wilderness or backcountry skills (improve backcountry travel skills; learn to travel to a remote destination and return successfully; a sense of self-sufficiency; recreation in a primitive environment) (43%), and physical activity (physical exercise and health; physical challenge) (43%).

The highest proportion of "slightly important" or "not at all important" ratings by visitors were hunting, fishing, and gathering (experiences associated with doing these activities in a remote area) (40%) and number of users (you saw while traveling; in groups that camped near you; large groups of users) (36%). It should be noted other visitors rated these experiences "very important" for example, hunting, fishing, and gathering (31%) and number of users (24%). Also on one hand, 35% of visitors indicated that physical activity was "slightly important" or "not at all important," but on the other hand 23% indicated that physical activity was "very important." These findings suggest the need for further analyses to identify possible combinations of important experiences for certain user groups related to recreation opportunities and conditions on the Allagash Wilderness Waterway. For example, one user group may place more importance on experiences involving the natural environment, personal and social experiences, and hunting, fishing, and gathering while another user group may place more importance on the natural environment, exploration and remoteness, solitude, and number of users.

Figures 22b–34b show the level of satisfaction for experiences related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Manning (1999) defines satisfaction as the congruence between expectations and outcomes. There appears to be a relatively high level of satisfaction reported for several of the experiences rated as being " very important." As reported earlier, 83% of visitors rated natural environment as "very important," and 98% of visitors reported being "very satisfied" or "satisfied" with the natural environment (Figure 22b). For the no litter and waste conditions, 79% of visitors rated this as "very important" and 17% as "important." Ninety-five percent of visitors reported being "very satisfied" or "satis-

fied" with the no litter and waste conditions (Figure 30b).

Some experiences related to recreation opportunities and conditions on the Allagash Wilderness Waterway were rated "neutral" in terms of the level of satisfaction. For example, 31% of the visitors reported "neutral" for the level of satisfaction associated with hunting, fishing, and gathering (Figure 34b). This would be expected since many of the visitors reported this experience as being "not at all important" (21%) and "slightly important" (19%) (Figure 34a). Similarly, 20% of visitors who rated "neutral" for the level of satisfaction associated with number of users had 36% of visitors that reported this experience was either "slightly important" or "not at all important" (Figures 33a–33b). Other experiences rated "neutral" in the 15% to 16% range such as physical activity, connection with nature, wilderness or backcountry skills had visitors that also reported that these particular experiences were either "slightly important" or "not at all important (See Figures 23a and 23b, 27a and 27b, 29a and 29b).

In general, most visitors reported no dissatisfaction with experiences related to recreation opportunities and conditions on the Allagash Wilderness Waterway. The highest proportion of dissatisfaction was with the number of users (you saw while traveling; in groups that camped near you; large groups of users) with 8% reporting being dissatisfied and 2% being very dissatisfied with this particular experience (Figure 33b). This aspect of the visitor experience may warrant more investigation by management especially if these same visitors rate the experience as being "very important."

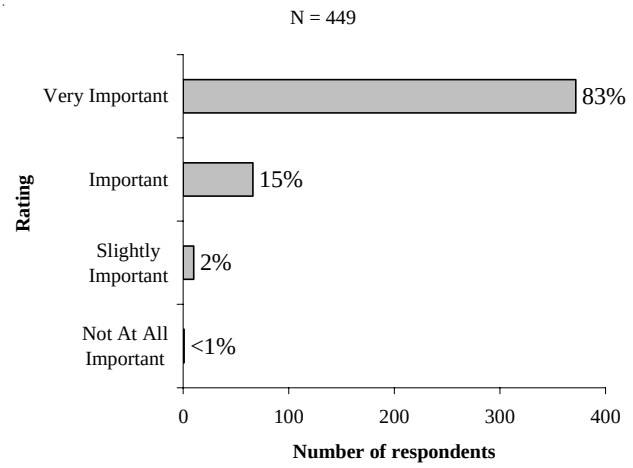

Figure 22a. Level of importance of the natural environment and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

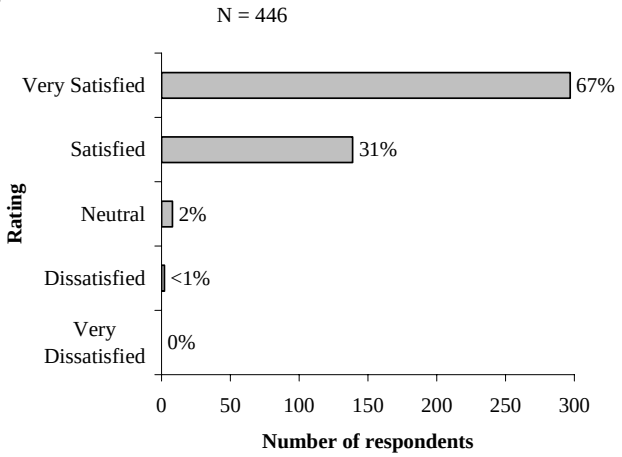

Figure 22b. Level of satisfaction with the natural environment and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

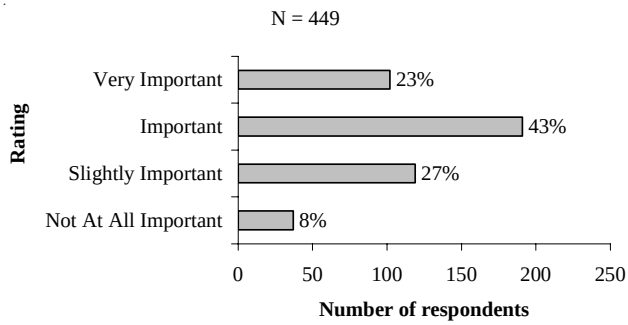

Figure 23a. Level of importance of physical activity and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

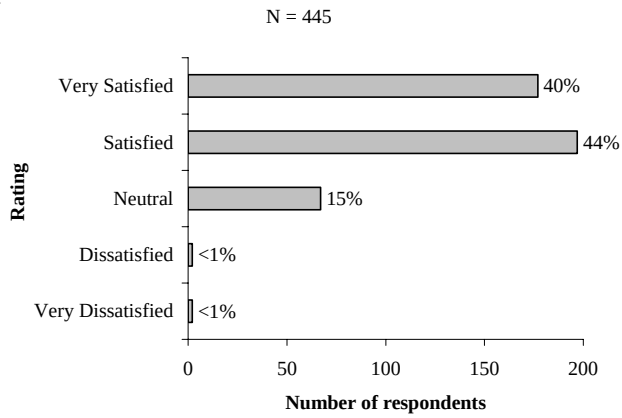

Figure 23b. Level of satisfaction with the physical activity and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

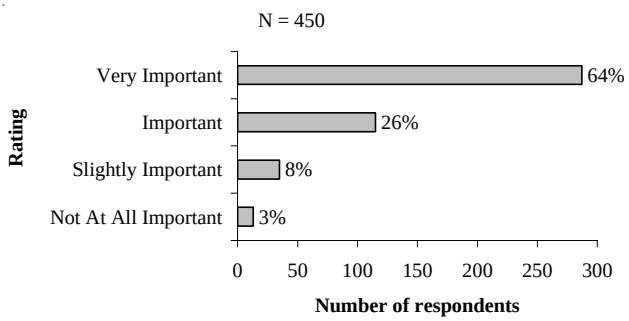

Figure 24a. Level of importance with personal and social experiences related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

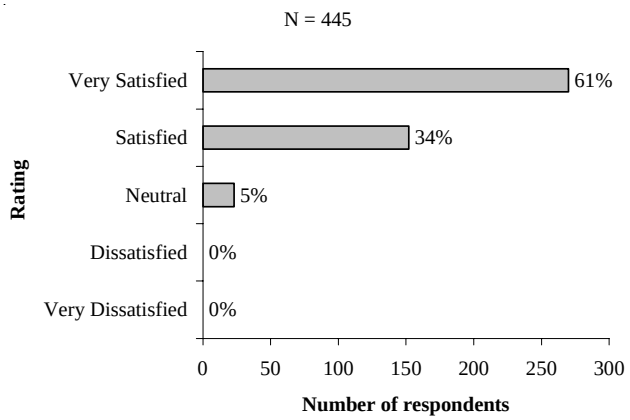

Figure 24b. Level of satisfaction with personal and social experiences related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

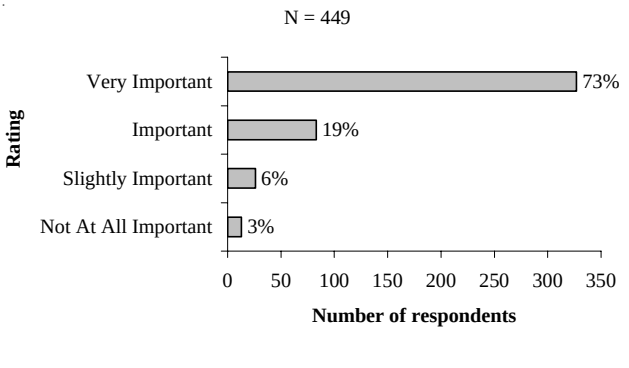

Figure 25a. Level of importance of exploration and remoteness related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

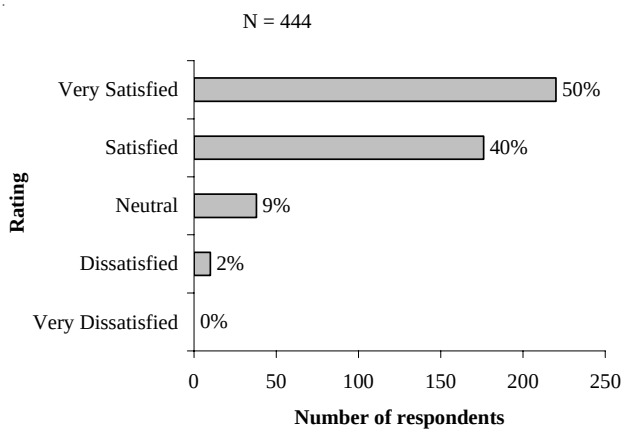

Figure 25b. Level of satisfaction of exploration and remoteness related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

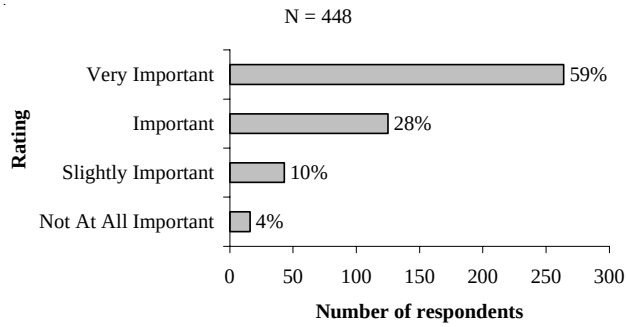

Figure 26a. Level of importance of solitude and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

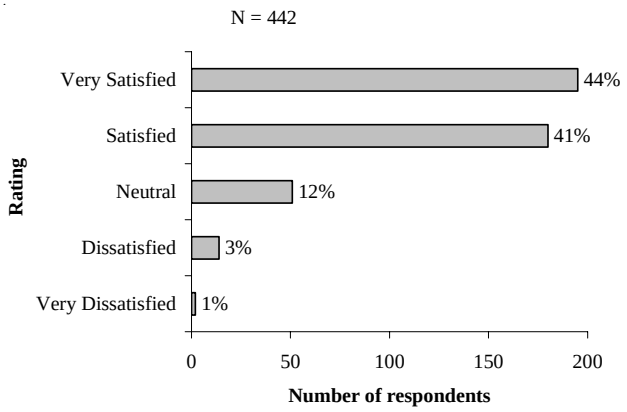

Figure 26b. Level of satisfaction of solitude and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

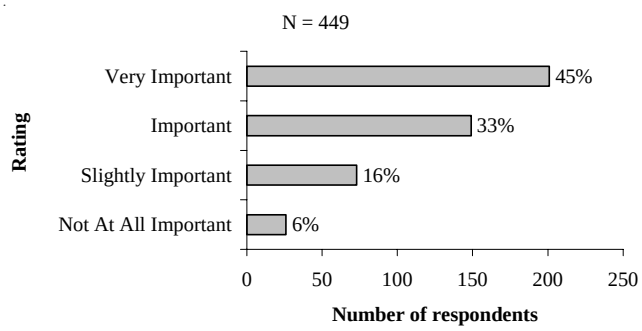

Figure 27a. Level of importance of connection with nature and related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

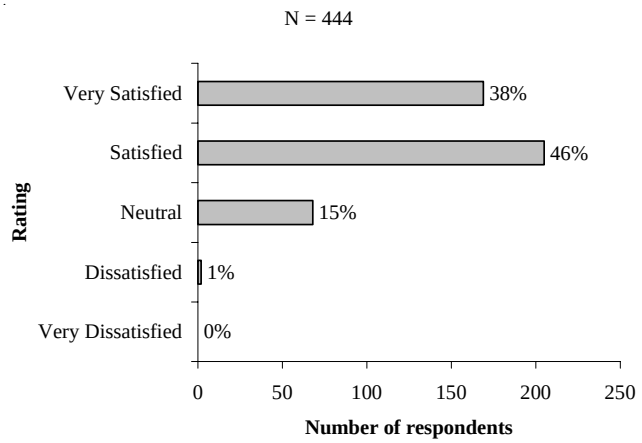

Figure 27b. Level of satisfaction of connection with nature and related recreation opportunities and conditions on the Allagash Wilderness Waterway.

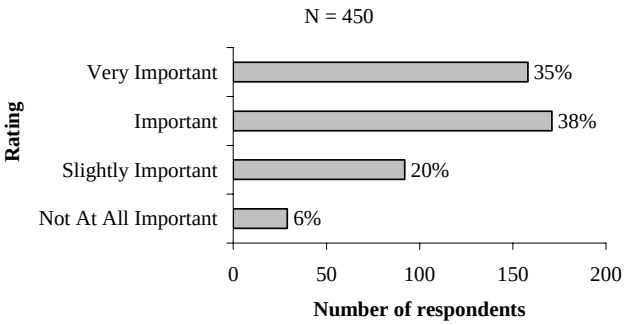

Figure 28a. Level of importance of connection with special places/tradition related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

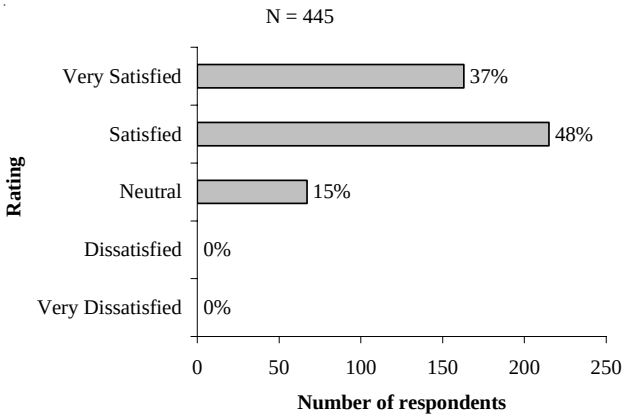

Figure 28b. Level of satisfaction of connection with special places/tradition related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

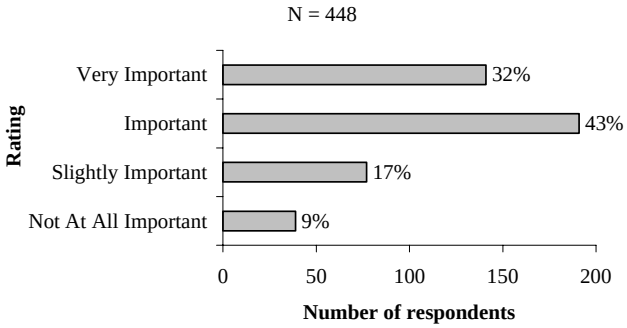

Figure 29a. Level of importance of wilderness or backcountry skills related recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

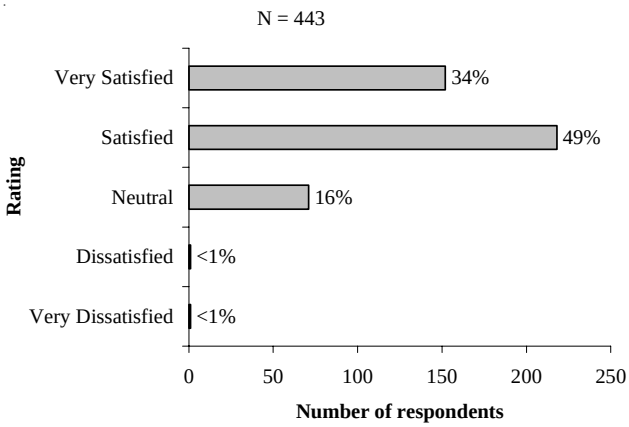

Figure 29b. Level of satisfaction with wilderness or backcountry skills related recreation opportunities and conditions on the Allagash Wilderness Waterway.

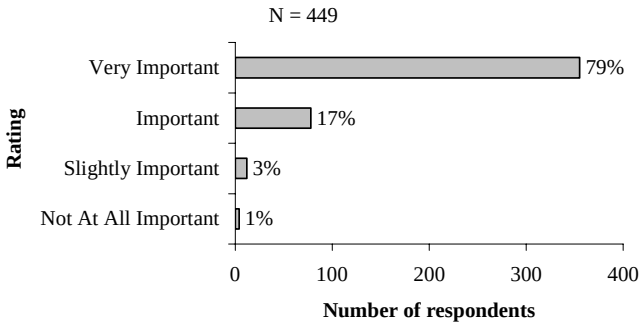

Figure 30a. Level of importance of no litter or waste related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

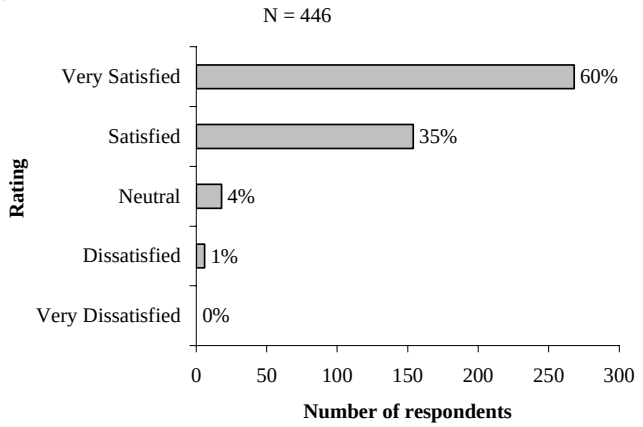

Figure 30b. Level of satisfaction of no litter or waste related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

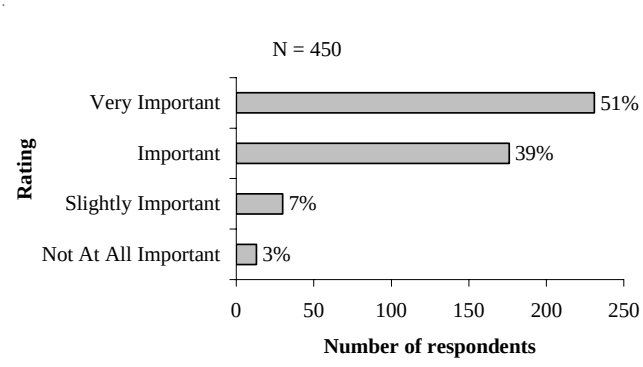

Figure 31a. Level of importance of management conditions related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

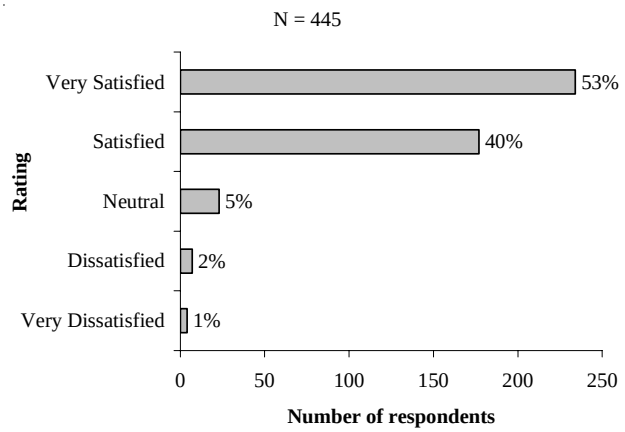

Figure 31b. Level of satisfaction of management conditions related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

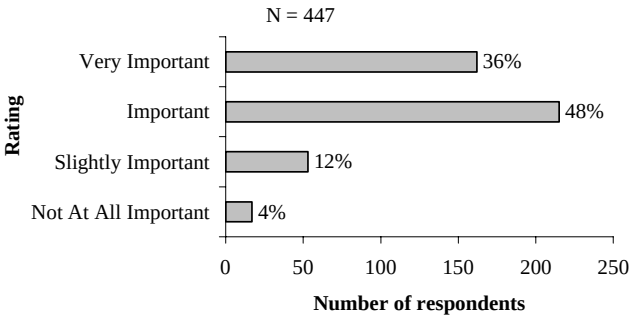

Figure 32a. Level of importance of information on watercourse related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

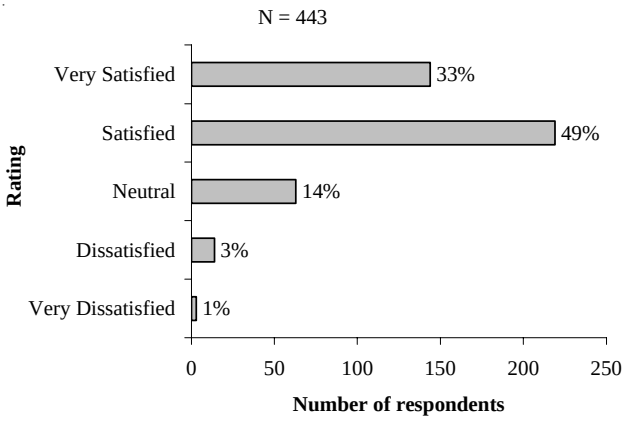

Figure 32b. Level of satisfaction of information on watercourse related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

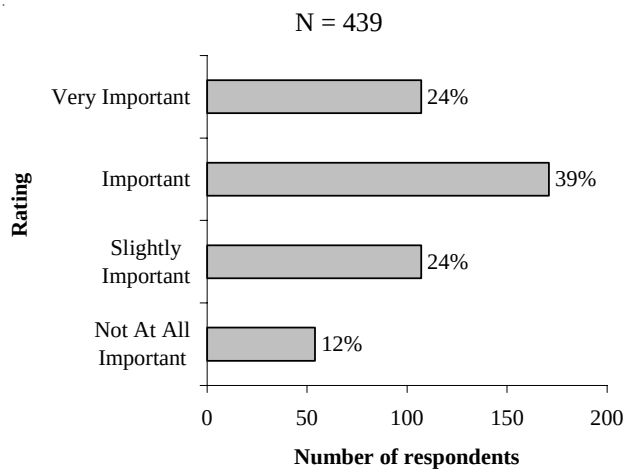

Figure 33a. Level of importance of number of users related to recreation opportunities and conditions on the Allagash Wilderness Waterway. Percentages do not equal 100 due to rounding.

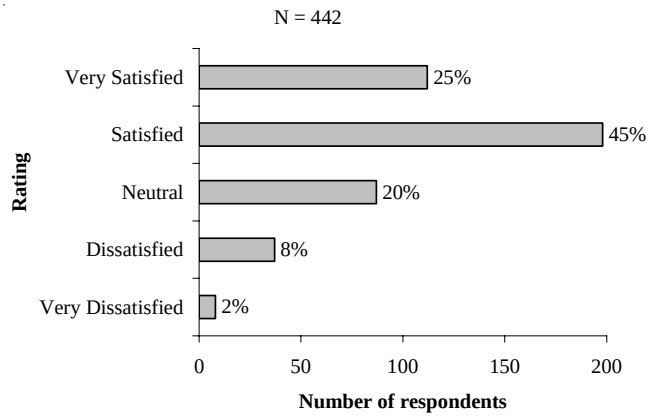

Figure 33b. Level of satisfaction of number of users related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

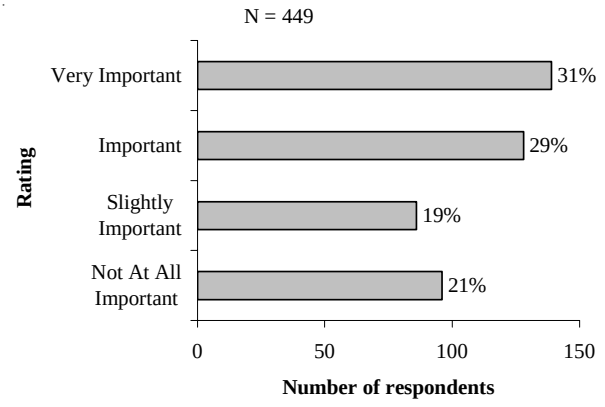

Figure 34a. Level of importance of hunting, fishing, and gathering related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

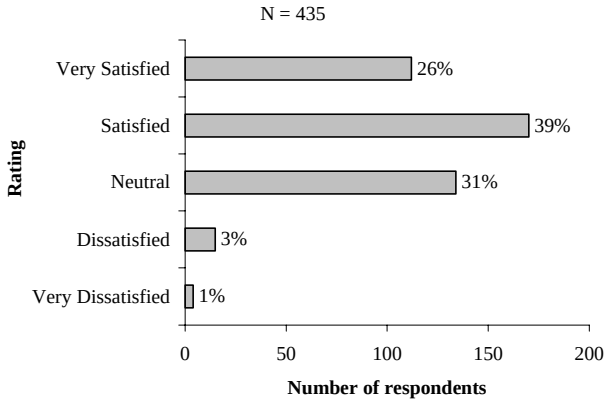

Figure 34b. Level of satisfaction of hunting, fishing, and gathering related to recreation opportunities and conditions on the Allagash Wilderness Waterway.

Visitors who answered "yes" to staying overnight in the Allagash Wilderness Waterway were asked questions about their camping experiences. As reported in Figure 6, the vast majority of visitors (98%) reported staying for at least one overnight. Figure 35 shows approximately 16% of visitors staying for one or two nights. The highest proportion of visitors stayed three nights (19%) and four nights (20%). Twenty-eight percent indicated that they spent five to six nights. Approximately 17% of visitors stayed a week or more.

Visitors were asked how many other parties on average camped within sight or sound of their campsite. The highest proportion of visitors (40%) reported that one party on average camped within sight or sound of their campsite (Figure 36). Thirty percent of the visitors reported that on average nobody camped within sight or sound of their campsite. Approximately one-quarter (26%) of the visitors reported that two or three groups, and 4% reported more than three groups on average camped within sight or sound of their campsite.

Visitors were asked how often they were able to find a campsite that was acceptable in terms of other parties being camped within sight or sound (Figure 37). Sixty-three percent of the visitors reported that they always were able to find a campsite that was acceptable and 29% of visitors reported they were usually (more than half of the time) able to locate an acceptable campsite in terms of other parties being camped within sight or sound. There were some visitors who had difficulty finding an acceptable campsite, 7% of visitors reported that only sometimes (less than half the time) that they were able to find a campsite that was acceptable. Finally, a very

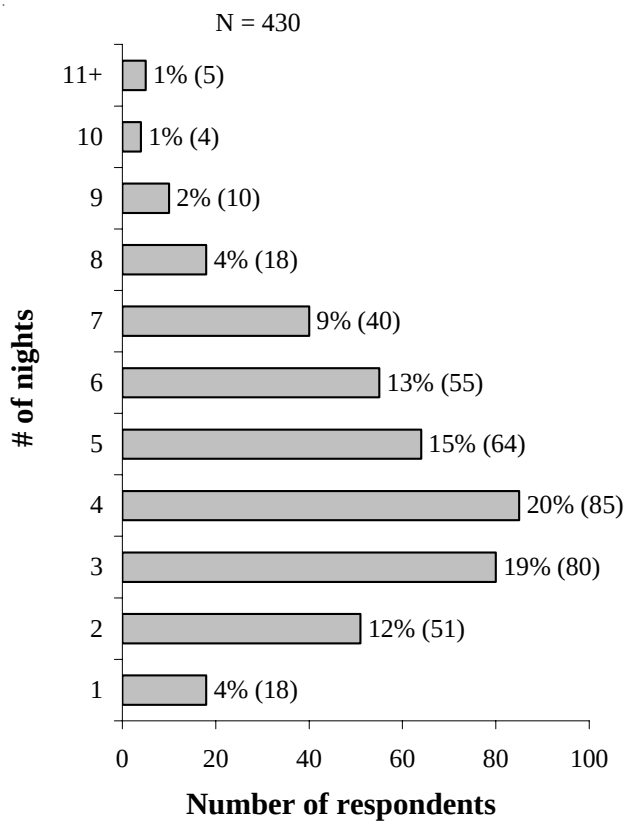

Figure 35. Number of overnights in the Allagash Wilderness Waterway.

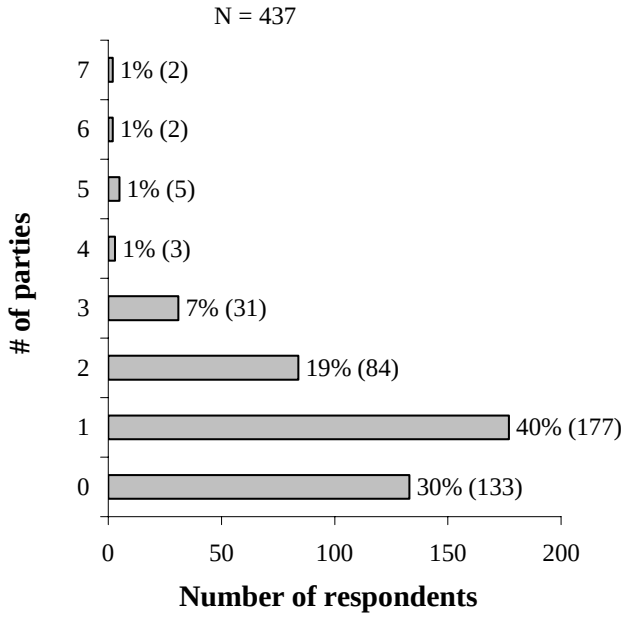

Figure 36. Number of other parties on average that camped within sight or sound of my campsite.

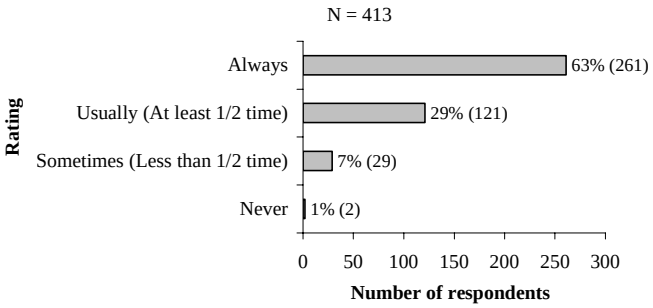

Figure 37. Ability to locate a campsite that was acceptable in terms of other parties being camped within sight or sound.

small percentage of visitors reported that they were never able to find an acceptable campsite in terms of parties camped within sight or sound.

Figure 38 shows how visitors felt in terms of the number of other people they saw at campsites on the Allagash Wilderness Waterway. Most visitors (71%) indicated that the number of other people they saw at campsites was "about right." However, there were approximately 18% of visitors who felt that they "saw too many" and 1% reported "saw way too many." In contrast, there were a few visitors that felt the opposite reporting that they felt the number of other people as "saw too few" (1%) or "saw way too few" (2%). Seven percent of visitors indicated that it did not matter to them one way or the other in terms of the number of other people at the campsites. Finally one visitor could not remember the number of other people he/she saw at the campsites.

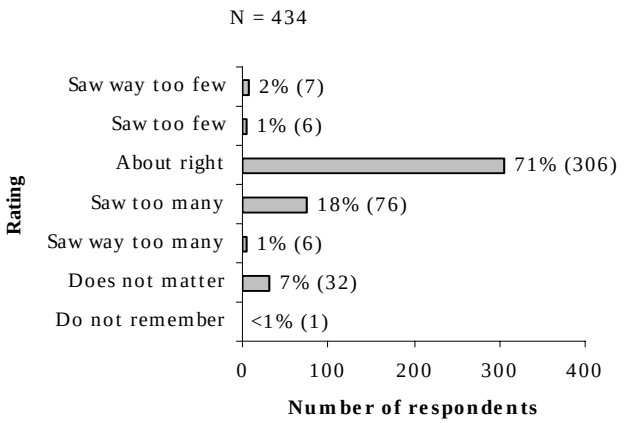

Figure 38. Feeling about the number of other people you saw at the campsites on the Allagash Wilderness Waterway.

Visitors were asked about the availability of campsites where they intended to stop (Figure 39). Sixty-three percent of visitors reported "always" and 33% reported "usually (at least half of the time)." A small percentage reported only "sometimes (less than ½ time) (4%) and "never" (1%). Despite the apparent availability of campsites, a large number of visitors (46%) reported not choosing the first available campsite (Figure 40).

Visitors were asked if, on this trip, an available campsite was rejected because of its condition (Figure 41). Approximately one-third of the visitors (33%) had rejected a campsite because of its condition. Visitors who reported rejecting a campsite were asked for specific reasons why they did not choose the campsite based upon a list of conditions (Table 11). Multiple reasons could have been given, but among the top reasons given by visitors were site too wet (41%), not enough tent sites (34%), and site too buggy (33%). For some visitors reasons more related to aesthetics were given such as lack of vegetation (16%), erosion from use (15%), trees with exposed roots (14%), scarce vegetation for screening other campers (13%), and amount of litter seen (11%). A few visitors indicated they did not choose certain campsites because of the scarcity of firewood and the conditions of firepits and/or tables. A number of the respondents (34%) indicated "other" and the reasons given in this category ranged from uneven site, wind/weather, poor boat access, not mowed, to poor view, among others.

Similarly, visitors were asked if, on this trip, an available campsite was rejected because of its location (Figure 42). Approximately 38% of visitors reported rejecting an available campsite because of its location (shallow boat landing; poor view, too close to another occupied camp). Again, in some cases multiple reasons were given by visitors in terms of location characteristics of a campsite (Table 12). The most frequently reported reason (44%) was that the site was too close to another occupied campsite. Thirty-one percent of the visitors reported no level ground for a tent. Possibly related to the first reason or potential for occupation was the fact that the campsite was a multi-cell site (29%). Approximately one-quarter of the visitors reported the

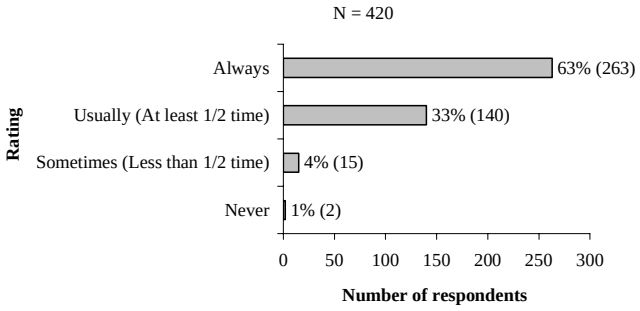

Figure 39. Availability of a campsite where you planned to stop each night. Percentages do not equal 100 due to rounding.

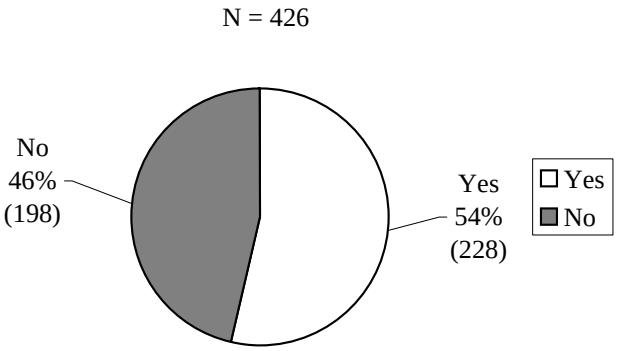

Figure 40. Did you take the first available campsite you found where you intended to stop?

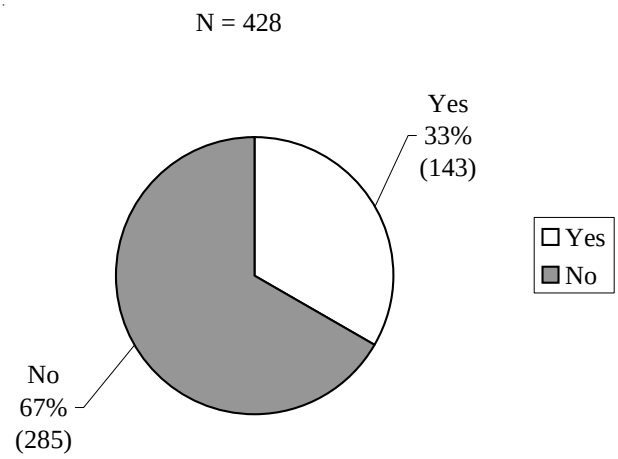

Figure 41. Did you reject an available campsite because of its condition?

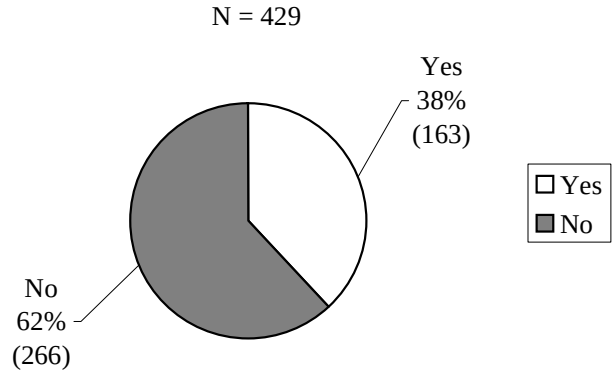

Figure 42. Did you reject an available campsite because of its location?

Table 11. Conditions that caused the rejection of a campsite.

Condition	Number of visitors	% of visitors
Site too wet	59	41
Not enough tent sites	49	34
Site too buggy	47	33
Lack of vegetation ground cover	23	16
Erosion at campsite	21	15
Trees with exposed roots	20	14
Scarce vegetation for screening other campers	18	13
Litter	15	11
Firewood scarce	14	10
Condition of fire pit	11	8
Human waste	9	6
Ridge pole/table in poor condition	9	6
Too many damaged trees	5	4
Too many trails leading in/out of campsite	5	4
Too many rustic improvements	3	2
Other	49	34

Percentages do not equal to 100 because visitors could indicate more than one condition

Table 12. Location characteristics that caused the rejection of campsite.

Condition	Number of visitors	% of visitors
Too close to another occupied campsite	72	44
No level ground for tent	51	31
Multi-cell campsite	48	29
No breeze for insects	42	26
Poor view of water	39	24
Lack of good swimming area	26	16
Size too small for our group	22	14
Too far away from boat	16	10
Shallow water for landing boat	13	8
Not enough shade	12	7
Lack of good fishing	11	7
Too close to water	1	<1
Other	20	12

Percentages do not equal to 100 because visitors could indicate more than one location characteristic.

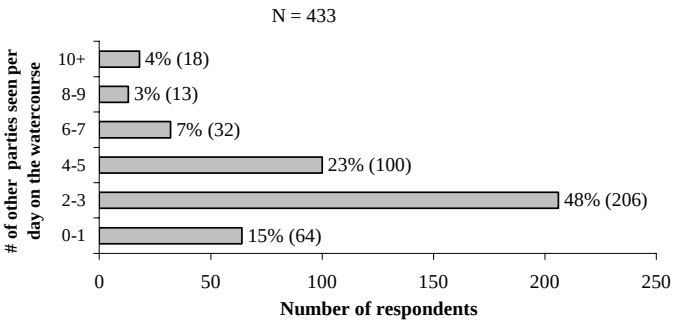

Figure 43. Number of other parties seen per day while traveling the watercourse.

location did not provide a breeze for insects (26%) or that the site did not have view (24%). Other reasons were associated with the inability to do other activities near the campsite such as swimming or fishing. For some visitors the campsite was either too close to water or not close enough to easily access boats. A few visitors (12%) indicated "other" and the reasons given in this category included inability for the campsite to provide shelter from wind, poor boat access, and proximity of the campsite to roads and vehicles.

Visitors were asked about how many other parties they saw while traveling the watercourse per day. The highest proportion of visitors (48%) reported that two to three parties were seen per day on the watercourse (Figure 43). Twenty-three percent of the visitors reported that on average four to five parties were seen per day on the watercourse. Approximately 14% of visitors reported seeing seven or more parties per day and 15% reported seeing zero to one parties per day on the watercourse. As Figure 44 shows most visitors (61%) did not see large groups (12 or more people). However, nearly one-third of the visitors (32%) reported seeing either one or two large groups. It should be noted in some cases visitors may have perceived two or more parties traveling together for a limited period of time to be one large group.

Figure 45 shows how visitors felt in terms of the number of other people they saw while paddling or boating on the Allagash Wilderness Waterway. Most visitors (69%) indicated that the number of other people they saw while traveling on the watercourse was "about right." However, there were approximately 14% of visitors who felt that they "saw too many" and 3% reported "saw way too many." In contrast, there were a few visitors that felt the opposite reporting that they felt the number of other people as "saw too few" (2%) or "saw way too few"

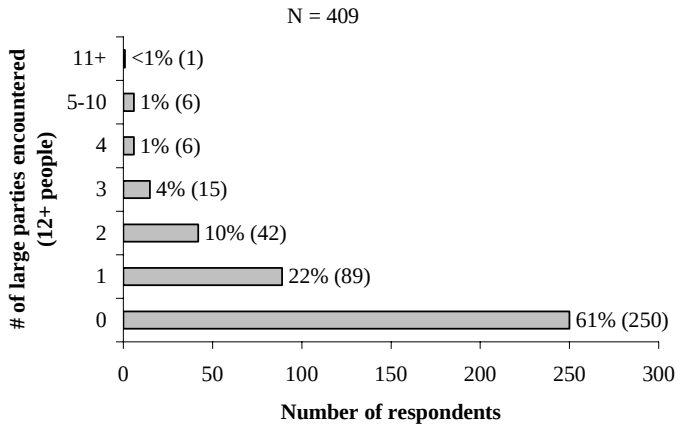

Figure 44. Number of large parties seen while traveling on the watercourse.

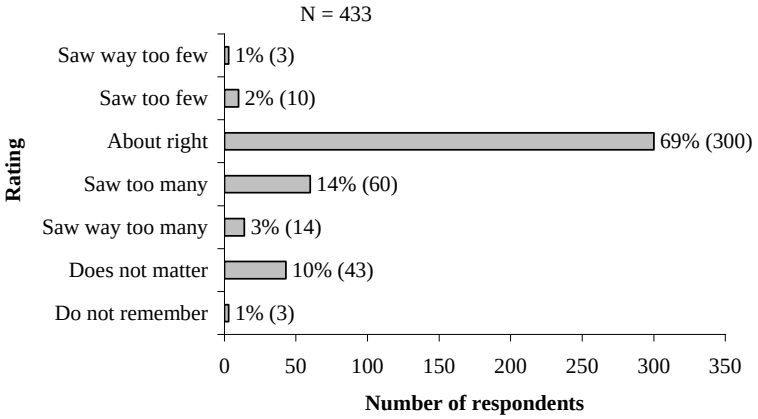

Figure 45. Feeling about the number of people seen while paddling or boating in the Allagash Wilderness Waterway.

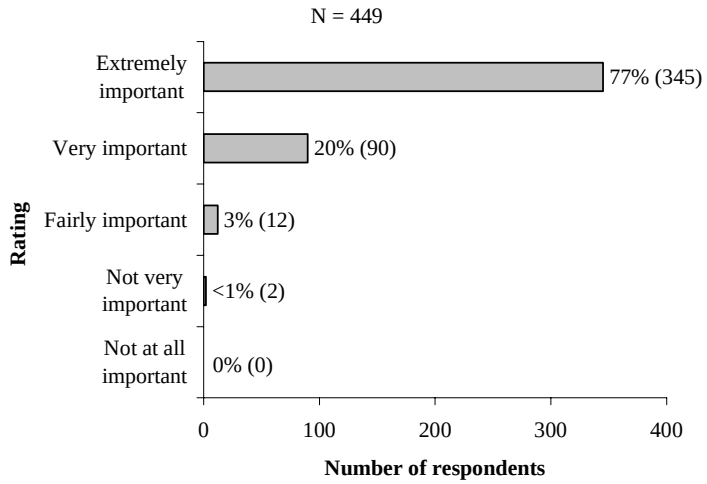

Figure 46. Importance of the Allagash Wilderness Waterway experience.

(1%). Ten percent of visitors indicated that it did not matter to them and three visitors could not remember the number of other people they saw while traveling on the watercourse.

Visitors were asked how important or valuable recreation experiences like the Allagash Wilderness Waterway is to them personally on a five-point scale ranging from not at all important to extremely important. As Figure 46 shows the vast majority of visitors (97%) indicated the experience was either extremely important (77%) or very important (20%). Three percent of the visitors reported the experience was fairly important. Two visitors indicated the experience was not very important to them. None of the visitors reported the experience as being not at all important.

Visitor Preferences for Resource and Social Conditions on the Allagash Wilderness Waterway

Figures 47–67 show visitors' preferences of campsite conditions on the watercourse. Visitors rated the importance from "not at all important" to "very important" for attributes of a campsite. Those attributes or conditions receiving the highest proportion of "very important" or "important" ratings by visitors included amount of litter present at a campsite (96%) (Figure 50), level ground for tent at campsite (94%) (Figure 59), dry ground at campsite (91%) (Figure 48), and ridge poles attached to picnic tables at campsite (80%) (Figure 52). Those attributes or conditions receiving the highest proportion of "slightly important" or "not at all important" ratings by visitors included letter/numbers carved on picnic table/ridge pole at campsite (76%) (Figure 51), number of trees with exposed roots at campsite (71%) (Figure 53), and number of trails/paths other than to privy and water access at campsite (66%) (Figure 61).

Another attribute rated by many visitors as being "very important" or "important" was the ability to locate an available campsite when ready to stop (86%) (Figure 63). Also, the ability to have privacy at campsites appears to be important to visitors. Most visitors rated "very important" or "important" to be out of sight or sound

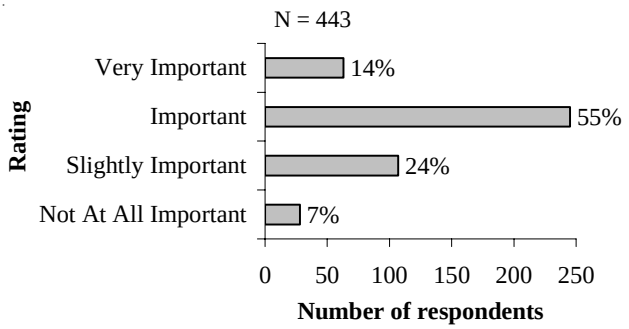

Figure 47. Amount of vegetation ground cover at campsite.

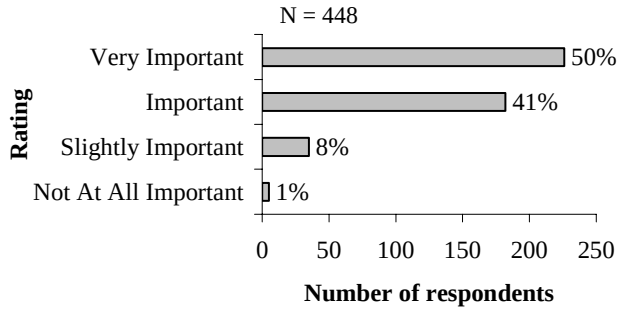

Figure 48. Dry ground at campsite.

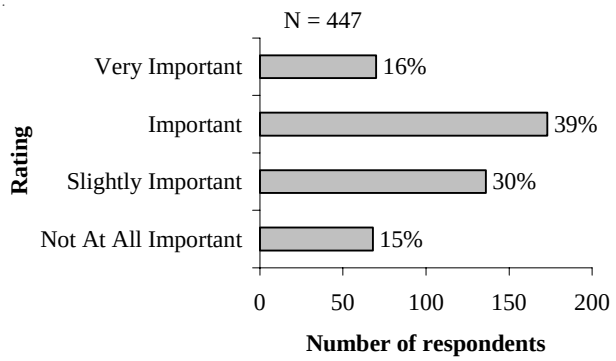

Figure 49. Rustic improvements at campsite.

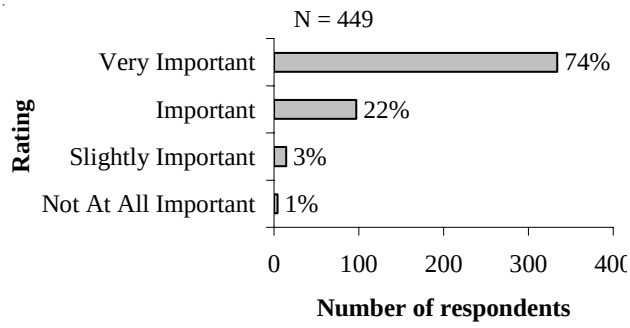

Figure 50. Amount of litter present at campsite.

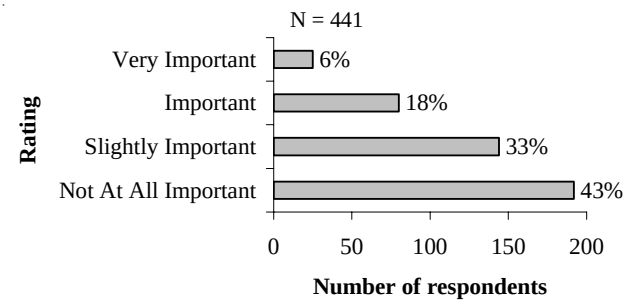

Figure 51. Letter/numbers carved on picnic table/ ridge pole at campsite.

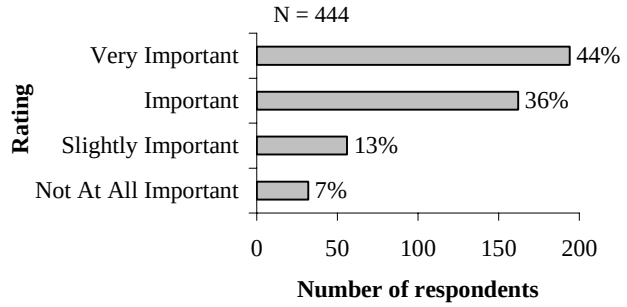

Figure 52. Ridgepoles attached to picnic tables at campsite.

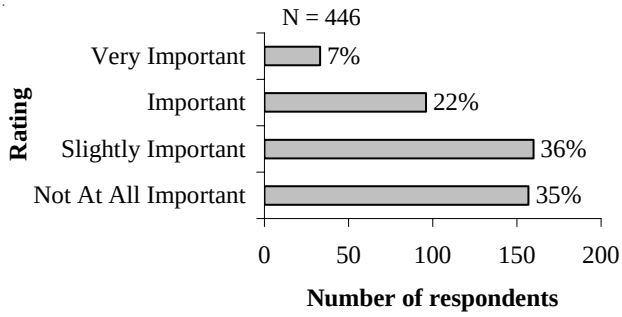

Figure 53. Number of trees with exposed roots at campsite.

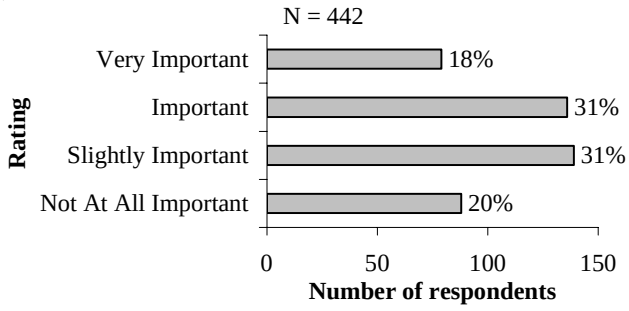

Figure 54. Number of trees with nails, hooks, ax marks, etc., at campsite.

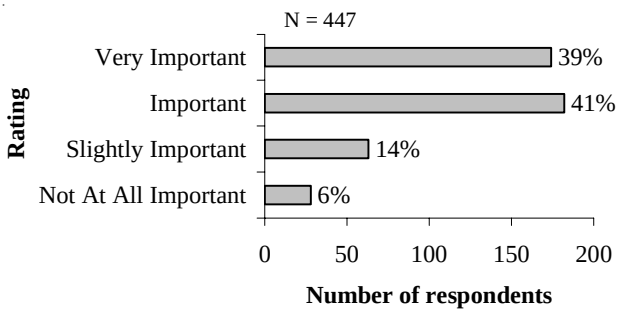

Figure 55. Amount of vegetation screening between campsites.

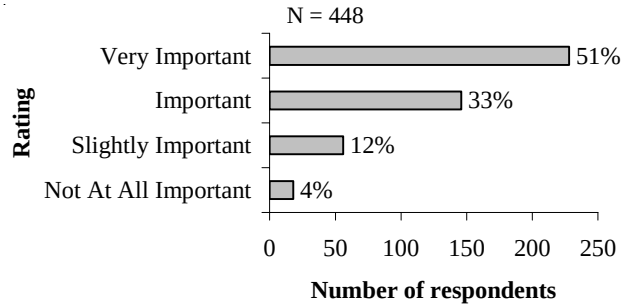

Figure 56. Out of sight or sound of other campers.

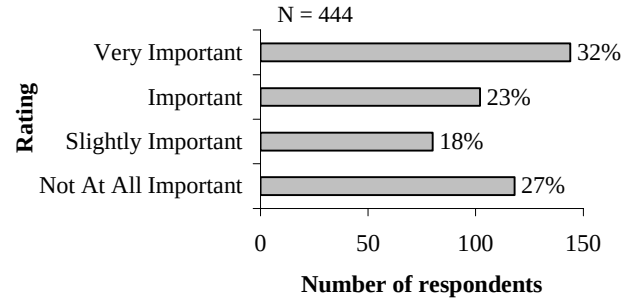

Figure 57. Good fishing nearby campsite.

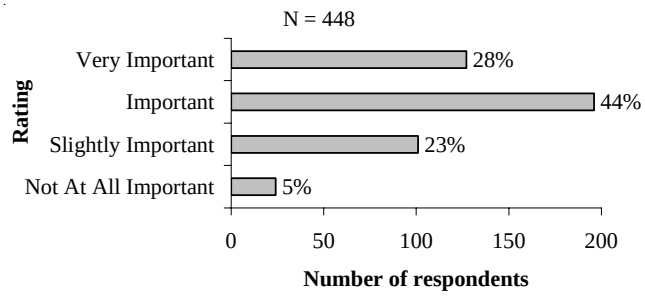

Figure 58. Good place to tie up boat or land canoe at campsite.

of other campers (84%) (Figure 56). As might be expected given the importance of the above question there was high importance on amount of vegetation screening between campsites (80%) (Figure 55). Some other campsite attributes rated "very important" or "important" included good place to tie up boat or land canoe at campsite (72%) (Figure 58), amount of vegetation ground cover at campsite (69%) (Figure 47), erosion at campsite (68%) (Figure 64) and shade at campsite (64%) (Figure 60).

On one hand vegetation screening was rated as being important between campsites, but on the other hand vegetation screening between the water and campsite was rated as being only "slightly important" or "not at all important" (68%) (Figure 66). Possible explanations for this difference may relate to other attributes being "very important" or "important" such easy access to boat or canoe at campsite (74%) (Figure 65) and ability to have a cross-breeze at campsite (54%) (Figure 67). Finally, visitors also may not desire vegetation screening between the water and campsite in order that they may enjoy views from the campsite.

It should be noted that there is much variability in importance for some attributes preferred at a campsite. Some of the variability appears to be related to the types of activities pursued nearby the campsite. For example, good fishing nearby campsite was rated by 32% of visitors as being "very important" as compared to 27% of visitors who rated it "not at all important" (Figure 57). Also, good swimming nearby the campsite was rated by 47% of visitors as being "very important" or "important," and 53% of visitors rated this item as being "slightly important" or "not at all important" (Figure 62).

Naturalness conditions at a campsite varied in importance to visitors. For example, some visitors rated not at all important the number of trees with exposed roots at campsite (35%) (Figure 53), number of trails/paths other than to privy and water access at campsite (26%) (Figure 61), and number of trees with nails, hooks, ax marks, etc. at campsite (20%) (Figure 54). In contrast some visitors rated these same items as being "very important" or "important" such as the number of trees with exposed roots at campsite (29%) (Figure 53), number of trails/paths other than to privy and water access at campsite (34%) (Figure 61), and number of trees with nails, hooks, ax marks, etc. at campsite (49%) (Figure 54). Fifty-five percent visitors rated "very important" or "important" for rustic improvements at campsite as compared to 45% that rated "slightly important" or "not at all important" (Figure 49).

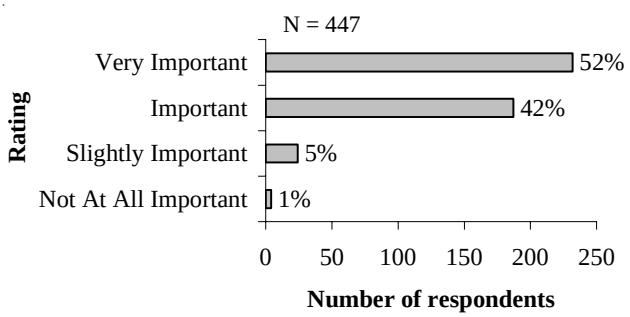

Figure 59. Level ground for tent at campsite.

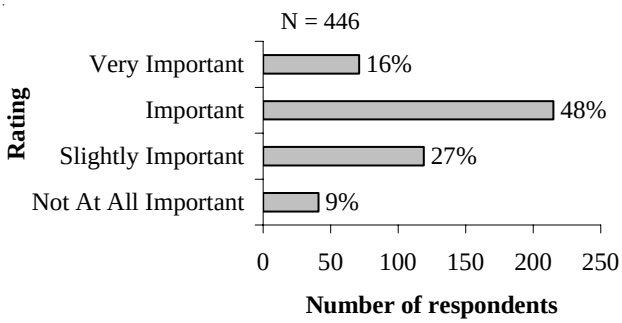

Figure 60. Shade at campsite.

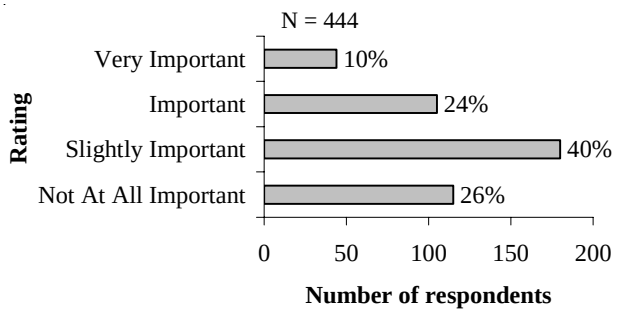

Figure 61. Number of trails/paths other than to privy and water access at campsite.

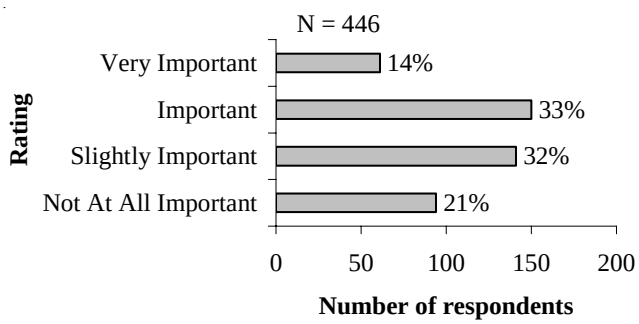

Figure 62. Good swimming nearby the campsite.

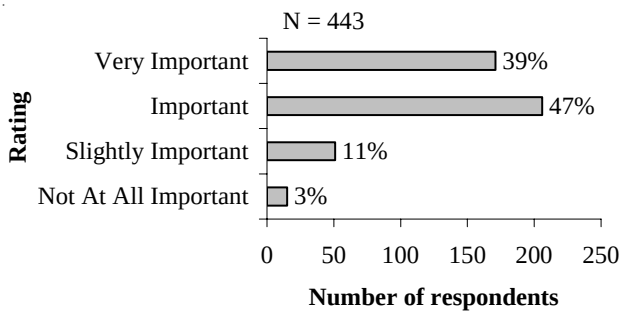

Figure 63. Ability to locate an available campsite when ready to stop.

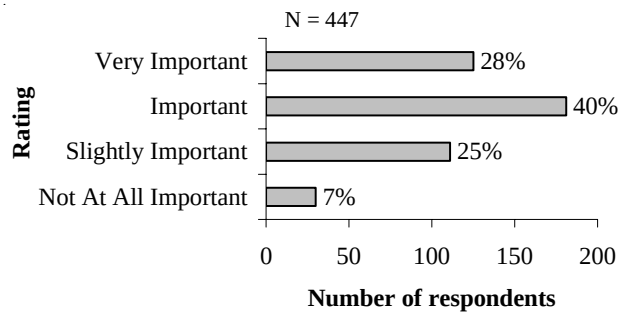

Figure 64. Erosion at campsite.

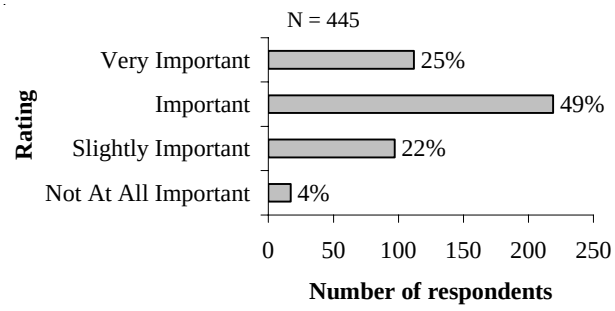

Figure 65. Easy access to boat or canoe at campsite.

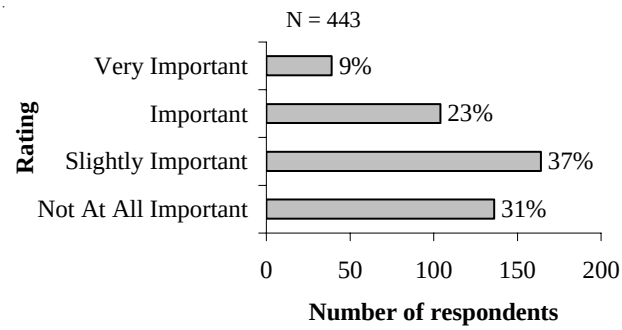

Figure 66. Amount of vegetation for screening between water and campsite.

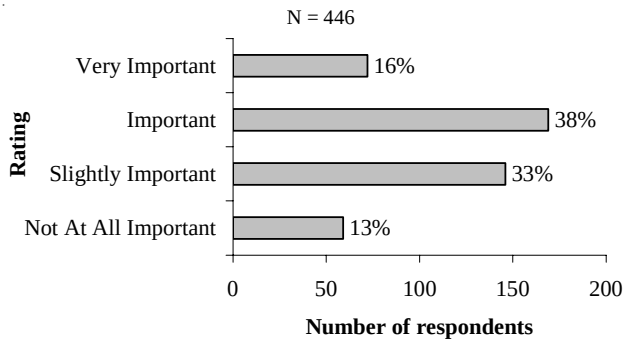

Figure 67. Cross-breeze at campsite.

These findings suggest the need for further analyses to link important campsite attributes with different types of visitor groups based upon preferred activities such as fishing or recreation experiences identified as being important to their visit at the Allagash Wilderness Waterway. For example, one segment of visitors may place more importance than another segment on experiences involving the natural environment, exploration and remoteness, and solitude, and these visitors may prefer a campsite with little evidence of human use such as rustic improvements, exposed roots, trees with nails, and multiple paths leading into and out of a campsite location. Another segment of visitors traveling in a larger group may prefer campsites that offer good swimming nearby as well as campsites that do not have much vegetation between campsites. Knowing more about the visitor segments would assist in suggesting possible campsite locations.

Resource managers have sometimes tried to protect the resource and visitor experience by defining an area's carrying capacity. Appropriate use levels have been estimated for a few areas. Sometimes management has tried to limit use within the estimated capacity. These actions might alienate visitors, and they have not been proven to protect the resource or the experience. Many variables such as type of use, season of use, visitor behavior, and site durability may better predict site impacts or visitor experience than the amount of use.

Recognizing the limitations of the carrying capacity model, Stankey et al. (1985) developed the Limits of Acceptable Change (LAC) planning framework, a management planning system now widely adopted. This planning approach focuses on system outputs, defining appropriate wilderness conditions and opportunities. Many resource and experience parameters might be selected to define quality. Monitoring all these parameters is infeasible and unnecessary. Instead, the LAC process calls for identifying and monitoring a small set of quality indicators. The best indicators are those that can be measured in cost-effective ways with acceptable accuracy, are related to amount or type of use, are related to visitor concerns, and are potentially responsive to managerial action (Stankey et al. 1985; Daigle et al. 2003).

The Allagash Wilderness Waterway plan defines classes of indicators only in a general sense. For example, the plan established a concept defining "wilderness character" for the restricted zone and the watercourse. One of the eight items defining the wilderness character includes opportunities are provided along the watercourse for primitive, secluded, and remote travel and camping. Being alone on the watercourse, alone in the campsite, encountering no large groups, and hearing no human-related noise could all be associated with desirable secluded travel and camping experiences on the Allagash Wilderness Waterway. Also challenging to managers is the variety of traditional activities defined as part of the "wilderness character" definition that includes among other opportunities the use of small motors on canoes and boats as well as the use of large motors on boats on large lakes. A challenge here is managing for positive experiences among diverse groups of visitors who come to the waterway with diverse expectations and diverse values, and this diversity is both recognized and mandated in the management plan and statutes.

Information from the visitor survey on preferences for campsite conditions (Figures 47–67) and the previous section with the level of importance for recreation experiences and conditions (Figures 22a–34a) begins to identify influences on experience quality. Once appropriate indicators of quality have been selected, a planning group must agree on acceptable conditions for each indicator. The figures presented below reflect a few potentially important indicators of experience quality based upon visitor responses. However, several indicators reported appear not to be that important from the visitor perspective, and thus might be questionable in using as future indicators of quality. For the purpose of this report, results are provided for acceptable conditions measured for all campsites and travel variables that appeared in the visitor survey. Research can help establish standards by identifying thresholds of rapid change in the indicator, interest group opinions, the range in current conditions, and visitor preferences. These standards can then guide management within the LAC framework.

The task is easier if visitors have broad agreement, or consensus, on acceptable conditions. If not, the manager might try to meet different visitors' needs in different zones of an area, work with the clientele group to foster consensus through discus-

sion and compromise, or decide what proportion of the clientele to satisfy. Figures 68a through 75a show the proportion of visitors with upper limit acceptability for campsite and travel conditions. Figures 68b through 75b describe the highest level of change from primitiveness in campsite and travel conditions that 50% and 75% of visitors will accept. The 50% and 75% levels were focused on because it is impractical to expect to please all visitors. Some past carrying-capacity research recommended managing for the median or 50% standard (Shelby 1981). However it is possible and desirable for managers to be able to please more than half of the visitors, so 75% is reported. The difference between standards at the 50% and 75% levels shows the extent of consensus among visitors: the greater the difference, the less agreement.

Figures 68a through 75a and 68b through 75b show great variation in the standards of conditions found acceptable for campsite and travel conditions. For many indicators, the manager would have to reduce the acceptable impact by more than half to meet the preferences of 75% of the visitors, instead of 50%. This suggests little shared agreement on appropriate conditions within the Allagash Wilderness Waterway.

Visitor standards identified for the Allagash Wilderness Waterway are difficult to compare with other wilderness boating and canoeing areas. For example, standards reported in other studies concerning visitor encounters per day vary depending upon the type of wilderness boating area such as a whitewater river or remote lake. Variation is also reported by wilderness boaters depending upon type of user encountered (e.g., motor boater vs paddling group) and encounters occurring in the periphery or interior sections. For the Allagash Wilderness Waterway, most visitors would accept seven to 11 watercraft seen along the watercourse in a day (Figure 68b). Also, visitors would accept seeing other boaters 8% to 19% of the time while traveling along the watercourse (Figure 69b). Most visitors would accept camping near one to two groups (Figure 70b). There were a number of questions that assessed the level of naturalness conditions. Visitors would accept one to three trees that had nails, hooks, or ax marks and two to four trees with exposed roots at a campsite (Figures 71b and 72b). Participants in the study would also accept 17% to 20% of vegetation loss and bare ground around the campsite, excluding the fire pit (Figure 73b). In addition, they would accept one to two trails/paths leading into and out of the campsite, other than the privy and water access (Figure 74b). There are many amenities such as a picnic table and ridgepole, fire pit, and privy located at all designated campsites. This may have contributed to the acceptability of other amenities such as rustic improvements. Visitors would accept one to three rustic improvements (e.g., log seats) in addition to the picnic table (Figure 75b).

The amount of vegetation between campsites and the campsite and water is important to many visitors (Figures 55, 56 and 66). But because there appeared to be confusion in labeling the acceptability ranges of percentage of vegetation for these questions there was no attempt to define a standard. Figures 76 shows the proportion of visitors with upper limit acceptability for the percentage of vegetation desired between campsites. Figure 77 shows the proportion of visitors with upper limit acceptability for the percentage of vegetation between the campsite and water. It was unclear especially for the last figure whether unacceptable meant too much or too little vegetation to the respondent based upon answers to questions in other sections of the survey.

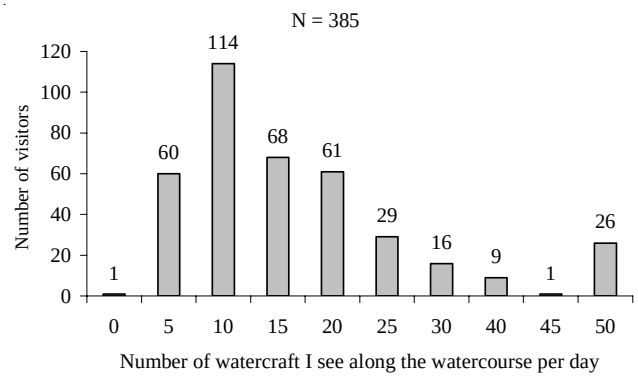

Figure 68a. Visitor judgment of the upper limit acceptability of watercraft seen along the watercourse per day.

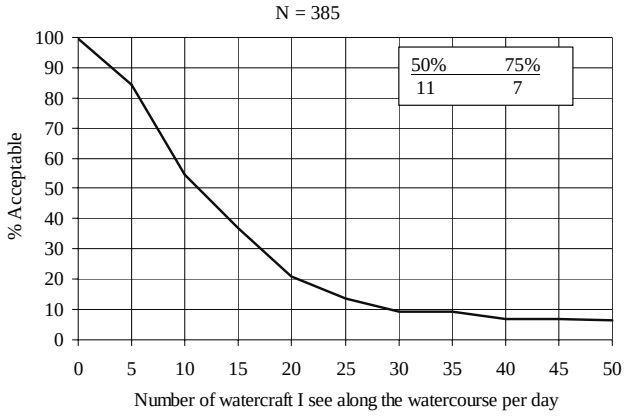

Figure 68b. The highest level of change that 50% or 75% of visitors will accept related to number of watercraft seen along the watercourse per day.

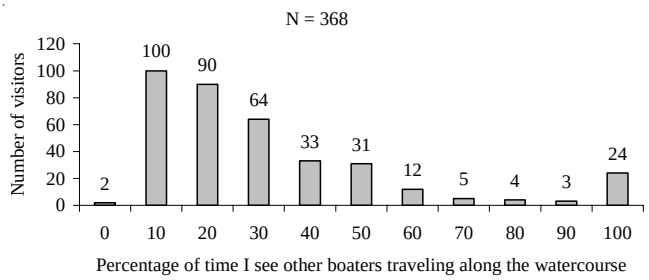

Figure 69a. Visitor judgment of the upper limit acceptability of percentage of time seeing other boaters traveling along the watercourse.

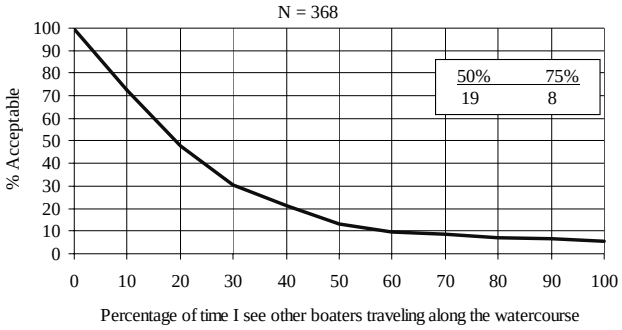

Figure 69b. The highest level of change that 50% or 75% of visitors will accept related to percentage of time seeing other boaters traveling along the watercourse.

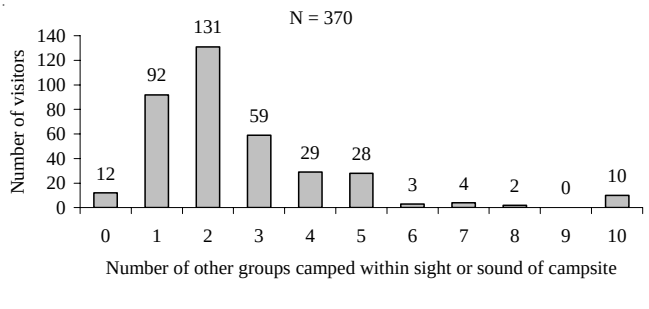

Figure 70a. Visitor judgment of the upper limit acceptability of number of other groups that camp within sight or sound of campsite.

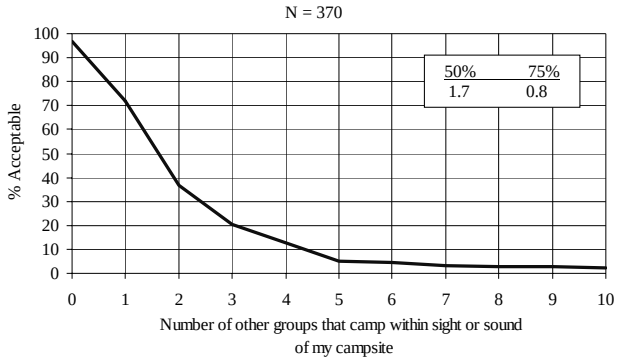

Figure 70b. The highest level of change that 50% or 75% of visitors will accept related to number of other groups that camp within sight or sound of campsite.

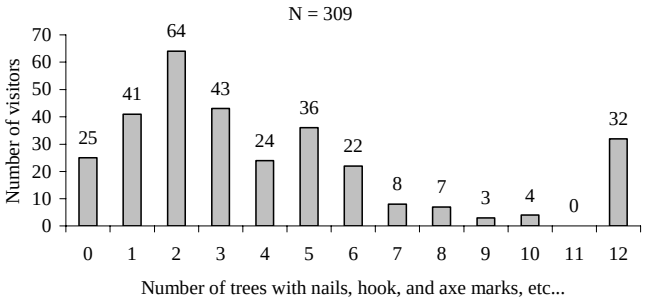

Figure 71a. Visitor judgment of the upper limit acceptability of the number of trees with nails, hooks, and ax marks, etc.

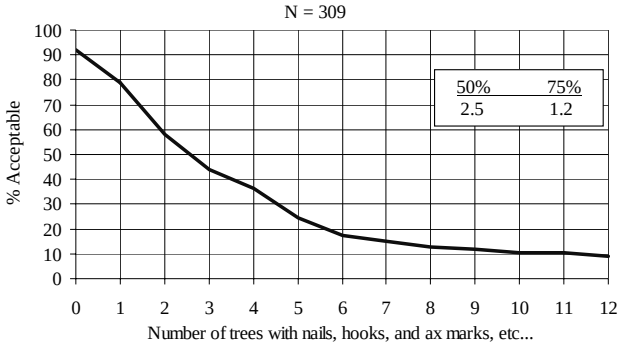

Figure 71b. The highest level of change that 50% or 75% of visitor will accept related to the number of trees with nails, hooks, and ax marks, etc.

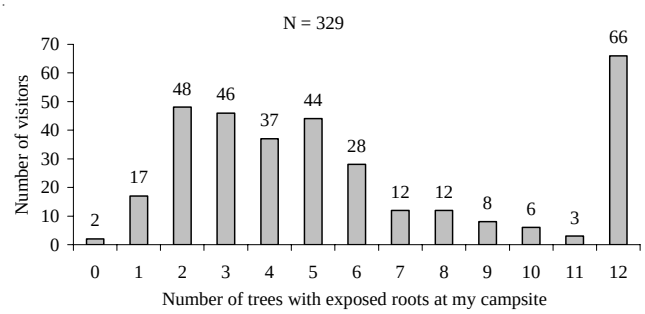

Figure 72a. Visitor judgment of the upper limit acceptability of number of trees with exposed roots at campsites.

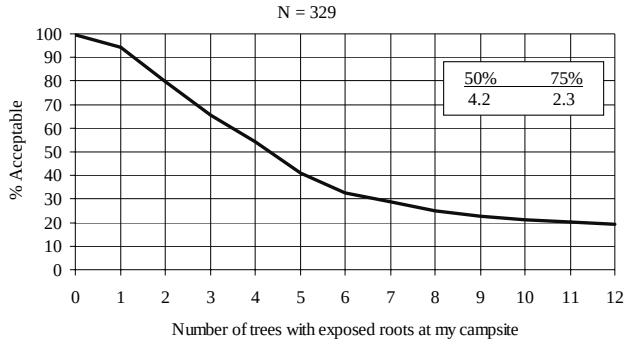

Figure 72b. The highest level of change that 50% or 75% of visitors will accept related to number of trees with exposed roots at campsites.

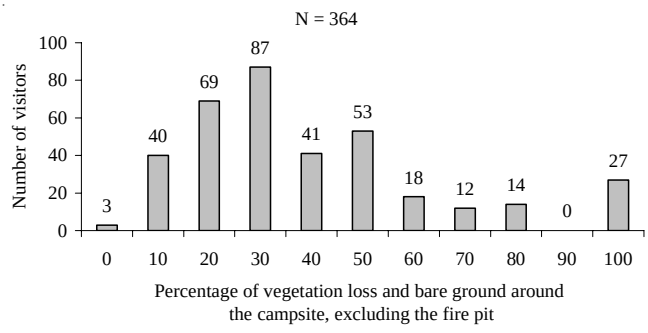

Figure 73a. Visitor judgment of the upper limit acceptability of percentage of vegetation loss and bare ground around the campsite, excluding the fire pit.

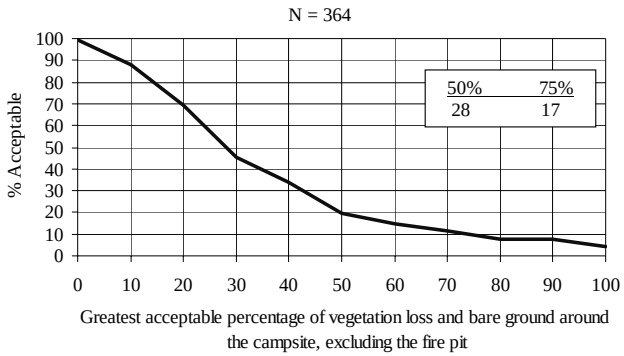

Figure 73b. The highest level of change that 50% or 75% of visitors will accept related to percentage of vegetation loss and bare ground around the campsite, excluding the fire pit.

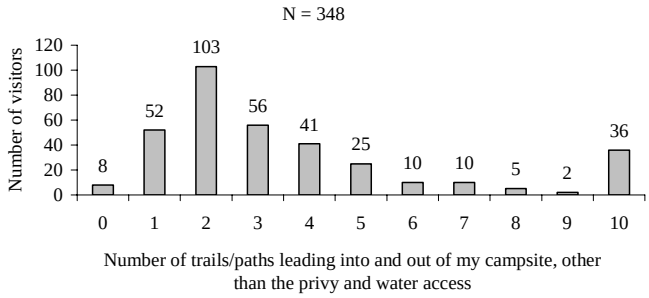

Figure 74a. Visitor judgment of the upper limit acceptability of the number of trails/paths leading into and out of the campsite, other than the privy and water.

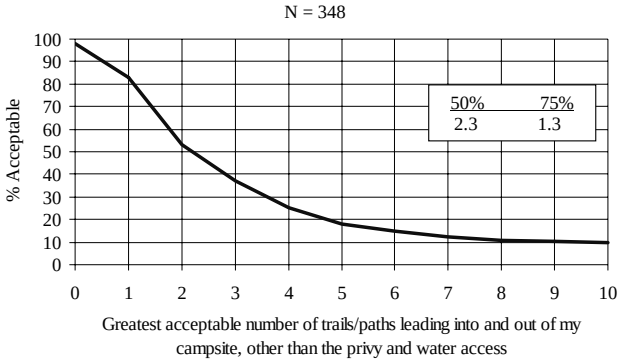

Figure 74b. The highest level of change that 50% or 75% of visitors will accept related to number of trails/paths leading into and out of the campsite, other than the privy and water access.

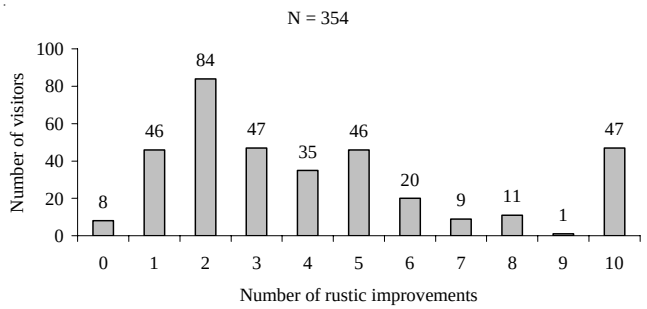

Figure 75a. Visitor judgment of the upper limit acceptability of number of rustic improvements (e.g., log seats) in addition to the picnic table.

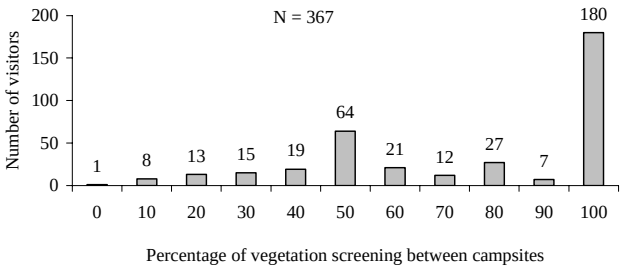

Figure 76. Visitor judgment of the upper limit acceptability of the percentage of vegetation screening between campsites.

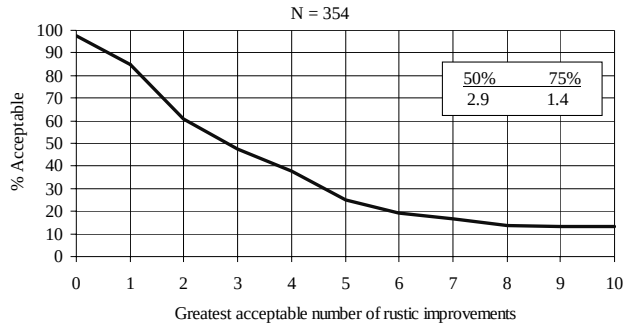

Figure 75b. The highest level of change that 50% or 75% of visitors will accept related to the number of rustic improvements (e.g., log seats) in addition to the picnic table.

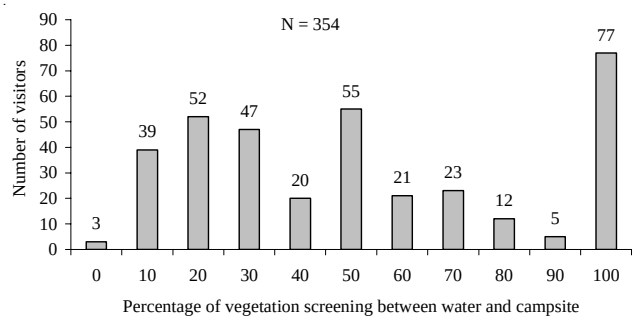

Figure 77. Visitor judgment of the upper limit acceptability of the percentage of vegetation screening between water and campsite.

MANAGEMENT IMPLICATIONS

The high percentage of visitors rating their overall trip experience on the Allagash Wilderness Waterway as "very good" (74%) or "good" (23%) should be encouraging to management in the Department of Conservation and Bureau of Parks and Lands as well as local area businesses. The majority of visitors consider the recreation experiences like the Allagash Wilderness Waterway as being "extremely important" (77%) or "very important" (20%) and this supports the importance of stewardship in protecting this valuable resource for the people of Maine and many who come from away to visit.

Some specific management implications have already been pointed out. Several more general suggestions can be made. This report could be used when studying current visitation, planning future educational programs, selecting indicators for LAC applications, and establishing management objectives. As the body of research literature on wilderness and undeveloped recreation areas continues to grow, differences have been found among visitors to these areas with desired experiences and preferences for resource and social conditions. These findings suggest the need for the Allagash Wilderness Waterway management to identify the important indicators of quality experiences and appropriate standards for these indicators. For example, certain indicators of experience quality at the Allagash Wilderness Waterway may or may not be similar to the Boundary Waters Canoe Area in Minnesota. Also, indicators that may be similar such as percentage of time seeing other boaters traveling along the watercourse may have different standards.

It is evident that the Allagash Wilderness Waterway serves a diverse group of visitors who have different interests and abilities. As reported above, the highest proportion of "slightly important" or "not at all important" ratings by visitors were hunting, fishing, and gathering (experiences associated with doing these activities in a remote area) (40%) and number of users (you saw while traveling; in groups that camped near you; large groups of users)

(36%). However, other visitors rated these same experiences "very important" for example, hunting, fishing, and gathering (31%) and number of users (24%). Also on one hand, 35% of visitors indicated that physical activity was "slightly important" or "not at all important" but on the other hand 23% indicated that physical activity was "very important." These findings suggest the need for further analyses to identify possible combinations of important experiences for certain user groups related to recreation opportunities and conditions on the Allagash Wilderness Waterway. For example, one user group may place more importance on experiences involving the natural environment, personal and social experiences, and hunting, fishing, and gathering while another user group may place more importance on the natural environment, exploration and remoteness, solitude, and number of users. Related to the above experiences may be the desire and ability to traverse the full watercourse. However, time constraints and other reasons may attract visitors to certain sections of the watercourse.

Educational efforts about the Allagash Wilderness Waterway should be focused primarily in Maine where most visitors live as well as in several states located in the Northeastern United States. Organizations or large groups that use the area should be identified and targeted for information especially for campsites that are an appropriate size fit for the group. Information should be tailored to the visitor with nearly three-quarters being repeat visitors to the Allagash Wilderness Waterway. Also, the vast majority of visitors reported previous experience at a remote or undeveloped river area.

The results suggest at least a couple of things about monitoring to improve the visitor experience at campsite locations. Nearly one-half of the visitors reported that they rejected the first available campsite. One-third of the visitors reported rejecting the site because of its condition, for example, too wet, lack of vegetation ground cover, and erosion. There are a number of site and visitor management strategies that may be employed to rehabilitate conditions of campsites. Also, visitors indicated that not enough tent sites were available, but in this case campsites nearby may be able to accommodate these larger groups. Given the diversity of users it is important to maintain a level of diversity of campsites that currently exist in the Allagash Wilderness Waterway. In addition to the condition of the campsite, approximately 38% of visitors indicated they rejected a site because of its location. Many reasons were given, but most focused on being too close to another occupied campsite or the site being a multi-cell campsite. The amount of vegetation screening between sites may help alleviate this problem at a multi-cell campsite, especially those sites at remote locations or transition sites where many visitors tend to camp in order to portage to other locations. However, it may be prudent for visitors concerned about the solitude at the campsite to plan ahead to avoid camping at these transition sites or to be directed to less visited areas in the watercourse. Finally, additional information related to attributes that are important for certain visitor groups, such as enough water for landing a boat, may help visitors who had difficulty locating an acceptable campsite.

Some visitors will accept more departure from pristine and naturalness conditions than others. A range of opportunities within the Allagash Wilderness Waterway appears to be appropriate. The mean acceptability values available from this survey are probably of limited use in developing standards and objectives for management. But more detailed analysis of similar data could differentiate preference values for certain visitor groups based upon their experience preferences, for overnight and day users, for fishermen, and for visitors to heavily used places, and for visitors to more remote portions of the watercourse.

Finally, in keeping with the social science emphasis of this report, management objectives could be developed from this data in terms of visitor perceptions, and discussion is limited to elements of these environments that research indicated visitors are aware of and which potentially affect visitor satisfaction. There are likely other elements, particularly of the natural and management environments, of which visitors are unaware, but that still require explicit management attention and objectives. Threat of invasive plants such as Eurasian milfoil to Maine's freshwaters may seriously compromise goals of maintaining naturalness conditions in the Allagash Wilderness Waterway. Information may need to be directed to visitors, in particular motorized users, since these plants can survive in livewell and cooling waters in motors. Visitors from New Hampshire and Massachusetts where these non-native plants are firmly established in freshwaters could be targeted for information since the likelihood of transport is high compared to other visitors.

RESEARCH IMPLICATIONS

The major research implication of this study is the value of baseline data for visitor characteristics and experiences in the Allagash Wilderness Waterway. More baseline studies of other areas offering

backcountry or remote boating experiences are desirable. Follow-up research to determine trends in the characteristics assessed here would provide information for managers to help protect unique recreation opportunities of boating in the remote backcountry.

Comparing the types of experiences that are important to different visitors using the area provides particularly promising research information. Different types of visitors to the Allagash Wilderness Waterway place varying levels of importance on recreation opportunities and conditions. Future research analyses could determine dimensions of the watercourse experience by using recreation opportunities perceived as being important as to why they visit the area, typing users according to their preferred mix of dimensions, and forecasting other user characteristics from the types identified. Factor analysis is a mathematical technique to reduce a large number of interrelated variables to a number of latent dimensions or factors (Kass and Tinsley 1979). Another method, cluster analysis could identify experience dimensions or use the set of factor scores associated with reasons for visiting into statistically homogenous segments. Knowing what different visitors value about visiting the area can help to explain much about their trip planning, preferences for campsites, preferences for management, and other characteristics that can help managers understand and plan for their clientele.

A campsite monitoring system is being developed for mapping and rating the physical condition of campsites. Twelve impact parameters, photographic documentation of each campsite, GIS/MAPINFO files for each campsite, and field notes were inventoried for 147 campsite cells as a result of fieldwork done during the summers of 1999, 2000, and 2001 (Daigle et al. 2002b). The campsite-monitoring system was designed to evaluate the magnitude of various impact parameters such as the size of the campsite, number of damaged trees, and number of damaged trees with exposed roots. One of the next phases with the development of the campsite monitoring system is evaluating the importance of various impact parameters (Hammitt and Cole 1998). The broad guiding objectives of solitude and naturalness were used to develop the campsite-monitoring system. The results of this study will help refine the concepts of acceptable variations in campsite naturalness and components of the experience of solitude actually expected or desired by users.

There was a proportion of visitors that reported they "saw too many" or "saw way too many" other people while paddling or boating (17%) or at the campsites (19%) on the Allagash Wilderness Waterway. All survey respondents reported travel itineraries by marking on a map their travel route and campsites used during their trip. These data could be incorporated into a research database that combines information from the campsite monitoring study described above. A GPS reference location for each campsite was obtained in the campsite study and these could be used to portray travel patterns of the visitors as well as identify possible "hot spots" of congestion experienced along section of the watercourse. In addition, other attribute data from the camping study, for example, amount of vegetation between campsites at multi-cell sites, could be utilized to visitor perceptions of numbers of people at campsites. Finally, it would appear the campsite attribute data might be useful in plotting the travel and camping itineraries of visitors that reported rejecting a campsite. The attribute data of campsites may help to explain conditions of campsites nearby that were rejected and features of the campsite where they eventually decided to stay after rejecting others.

In sum, more attention needs to be given to the assumptions made about what experiences are important when visiting the watercourse and more research is needed to understand how individuals, organizations, and those who do not use these particular areas weigh the relative importance of these recreation opportunities. This is especially true for secluded travel and camping experiences that are dependent on remote backcountry areas in Maine and the increasing pressure these areas face with sprawl and second home development.

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APPENDIX A—WILDERNESS CHARACTER CONCEPT FOR THE RESTRICTED ZONE AND THE WATERCOURSE

Wilderness Character Concept for the Restricted Zone and the Watercourse

- Opportunities are provided primarily for traditional recreational activities in predominately natural settings including but not limited to canoeing; primitive camping; river, stream, and lake fishing from canoes and small boats; shoreline fishing; the use of small motors on canoes and boats; the use of large motors on boats on large lakes; hunting; hiking; nature education; wildlife observation; photography; limited float plane access for canoeing and fishing parties; snowmobiling; and ice fishing.
- Limitations are placed on the number of motor vehicle, floatplane, watercraft, and snowmobile access points to the watercourse.
- Water quality and quantity are maintained for traditional recreational activities and water-dependent resources.
- Historical structures and cultural artifacts within the Waterway are maintained and interpreted.
- Ecosystem and natural communities, native flora and fauna, and geological features, particularly those that are rare, unusual, and special, are maintained and protected.
- Opportunities are provided along the watercourse for primitive, secluded, and remote travel and camping.
- Limitations may be placed on the type and amount of recreational use to maintain the quality of the resource and the experience.
- Administrative structures within the Restricted Zone are unobtrusive.

APPENDIX B—ALLAGASH WATERWAY MANAGEMENT POLICIES

Allagash Waterway Management Policies

1. Enhance the wilderness character of the restricted zone
2. Assure resource identification, protection, and appropriate management within the restricted zone by working with those agencies responsible for historical, cultural, natural, wildlife, and fishery resources.
3. Provide for traditional recreational uses in a wilderness character setting in the restricted zone.
4. Prevent development in the new construction area that is incompatible with the wilderness character of the restricted zone.
5. Maintain the appearance from the watercourse of a generally unbroken forest canopy in the restricted zone and by working with landowners to identify areas visible from the watercourse in the one mile area, and encourage appropriate silvicultural harvests.
6. Identify and encourage appropriate management of natural, recreational, historical, cultural, wildlife, and fishery resources located in the working forest of the one mile area, outside of the restricted zone, that are visited by waterway users or that contribute to the wilderness character of the restricted zone by working with landowners and public and private organizations.
7. Maintain watercourse water quality and ensure sufficient quantity for wildlife and recreation uses.

APPENDIX C—ALLAGASH WILDERNESS WATERWAY VISITOR SURVEY

ALLAGASH

WILDERNESS WATERWAY
VISITOR SURVEY

The University of Maine
Parks, Recreation & Tourism Program
5755 Nutting Hall
Orono, Maine

1865 THE UNIVERSITY OF MAINE

Allagash Wilderness Waterway Visitor Survey

All of the following questions refer to the visit you made to the Allagash Wilderness Waterway about _____, 2003.

1. How many people were in your party on this visit, including yourself? _____
   How many were under 16? _____

   Were these people (skip if you were alone):

   ___ Family or families
   ___ Family plus friends
   ___ Friends and acquaintances
   ___ From an organization (Scouts, Club, etc.)
   ___ Other (describe _____)

2. How did you travel on the watercourse? (check all that apply, but if more than one, underline the way you traveled most)

   ___ Boat with motor
   ___ Canoe with motor
   ___ Canoe without motor
   ___ Kayak
   ___ Other (describe _____)

3. Which of the following activities did you engage in on this visit? (check only those things that you personally engaged in)

   ___ Fishing
   ___ Hunting
   ___ Swimming
   ___ Canoeing
   ___ Boating
   ___ Hiking
   ___ Camping
   ___ Taking pictures
   ___ Nature study (bird watching, identifying wildflowers, etc.)
   ___ Collecting fiddleheads, berries, etc.
   ___ Visiting historical sites
   ___ Learning about local history
   ___ Picnicking
   ___ Talking to people in other groups
   ___ Spending time all alone
   ___ Other (describe _____)

4. Which of the following wildlife did you see? (check all that you saw)

___ Black bear	___ Beaver	___ Bald eagle
___ Moose	___ Muskrat	___ Blue heron
___ Deer	___ River otter	___ Osprey
___ Coyote	___ Fox	___ Other _____

5. Did you hire an outfitter:

A. To provide transportation or vehicle shuttle? ___ No ___ Yes

B. To provide equipment? ___ No ___ Yes

6. Did you hire a guide to lead you down the watercourse?

___ No ___ Yes

7. Was this your first visit to a remote or undeveloped river area?

___ Yes___ No **!** (At about what age did you first visit a remote or undeveloped river area? ___; Was this with with your parents? ___ No ___ Yes)

8. Have you ever visited the Allagash Wilderness Waterway before?

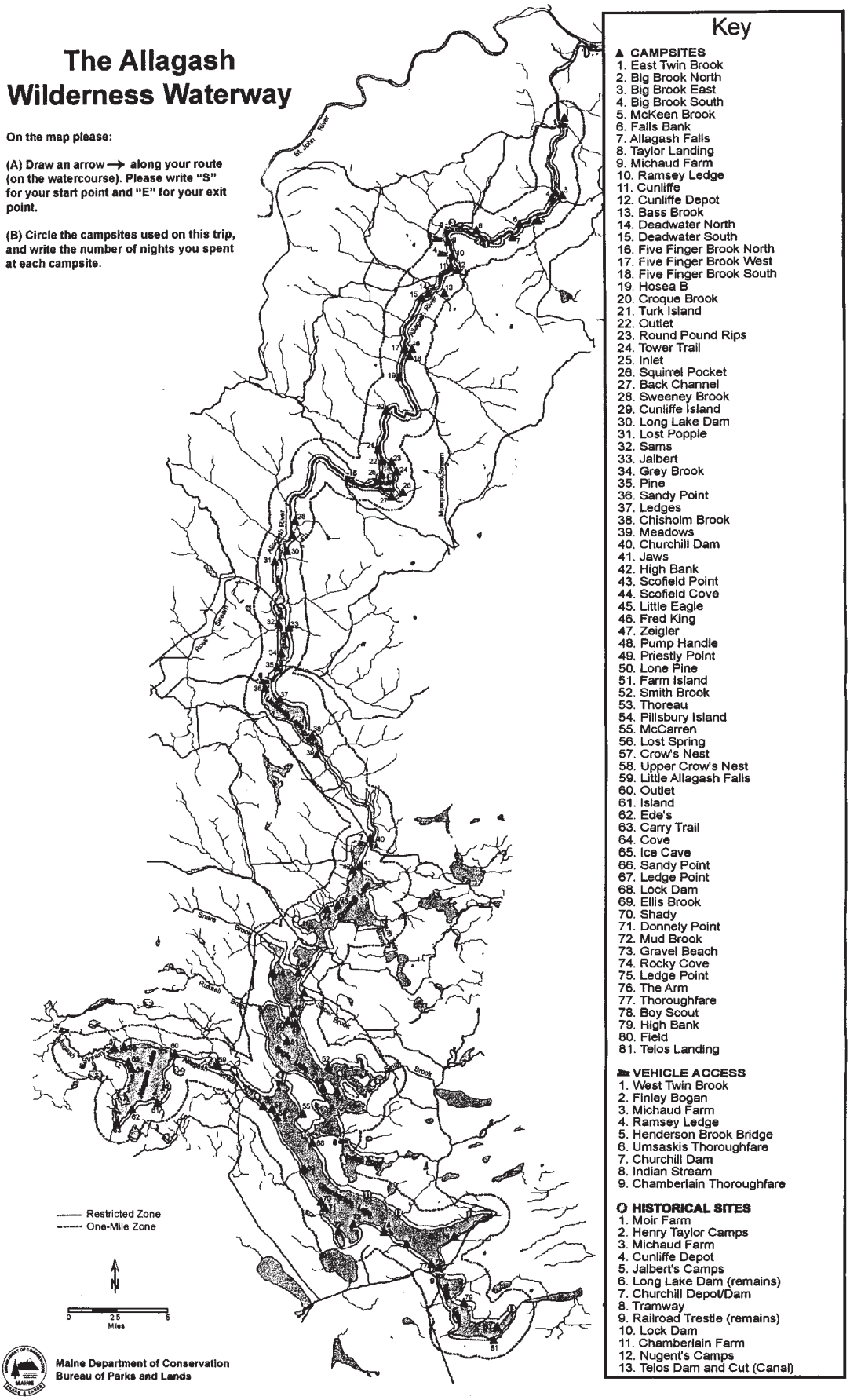
___ No ___ Yes

9. How would you rate this trip on the Allagash Wilderness Waterway? (check one)

___ A, very good
___ B, good
___ C, fair
___ D, poor
___ E, very poor

What was it about this trip that made you feel this way? _____
_____
_____

On the following map please: (A) Draw an arrow → along your route (on the watercourse). Please write "S" for your start point and "E" for your exit point. (B) Circle the campsites used on this trip and write the number of nights you spent at each campsite.


The Allagash Wilderness Waterway
On the map please:
(A) Draw an arrow → along your route (on the watercourse). Please write "S" for your start point and "E" for your exit point.
(B) Circle the campsites used on this trip, and write the number of nights you spent at each campsite.
Restricted Zone
One-Mile Zone
N
0 2.5 5
Miles
Maine Department of Conservation
Bureau of Parks and Lands
Key
▲ CAMPSITES
1. East Twin Brook
2. Big Brook North
3. Big Brook East
4. Big Brook South
5. McKeen Brook
6. Falls Bank
7. Allagash Falls
8. Taylor Landing
9. Michaud Farm
10. Ramsey Ledge
11. Cunliffe
12. Cunliffe Depot
13. Bass Brook
14. Deadwater North
15. Deadwater South
16. Five Finger Brook North
17. Five Finger Brook West
18. Five Finger Brook South
19. Hosea B
20. Croque Brook
21. Turk Island
22. Outlet
23. Round Pound Rips
24. Tower Trail
25. Inlet
26. Squirrel Pocket
27. Back Channel
28. Sweeney Brook
29. Cunliffe Island
30. Long Lake Dam
31. Lost Popple
32. Sams
33. Jalbert
34. Grey Brook
35. Pine
36. Sandy Point
37. Ledges
38. Chisholm Brook
39. Meadows
40. Churchill Dam
41. Jaws
42. High Bank
43. Scofield Point
44. Scofield Cove
45. Little Eagle
46. Fred King
47. Zeigler
48. Pump Handle
49. Priestly Point
50. Lone Pine
51. Farm Island
52. Smith Brook
53. Thoreau
54. Pillsbury Island
55. McCarren
56. Lost Spring
57. Crow's Nest
58. Upper Crow's Nest
59. Little Allagash Falls
60. Outlet
61. Island
62. Ede's
63. Carry Trail
64. Cove
65. Ice Cave
66. Sandy Point
67. Ledge Point
68. Lock Dam
69. Ellis Brook
70. Shady
71. Donnely Point
72. Mud Brook
73. Gravel Beach
74. Rocky Cove
75. Ledge Point
76. The Arm
77. Thoroughfare
78. Boy Scout
79. High Bank
80. Field
81. Telos Landing
VEHICLE ACCESS
1. West Twin Brook
2. Finley Bogan
3. Michaud Farm
4. Ramsey Ledge
5. Henderson Brook Bridge
6. Umsaskis Thoroughfare
7. Churchill Dam
8. Indian Stream
9. Chamberlain Thoroughfare
HISTORICAL SITES
1. Moir Farm
2. Henry Taylor Camps
3. Michaud Farm
4. Cunliffe Depot
5. Jalbert's Camps
6. Long Lake Dam (remains)
7. Churchill Depot/Dam
8. Tramway
9. Railroad Trestle (remains)
10. Lock Dam
11. Chamberlain Farm
12. Nugent's Camps
13. Telos Dam and Cut (Canal)

The following questions ask about decisions that you made related to your access point to the watercourse. This information will assist the Bureau of Parks and Lands in understanding how visitors choose access points.

10. In choosing places to visit within the Allagash Wilderness Waterway, some people prefer to visit new areas each time, while others enjoy going back to old, familiar places. Please indicate decisions made related to your access point marked on the map.

___ Visit new areas ___ Revisit same areas ___ Both

11. Did you request information about access points on the watercourse from the Maine Department of Conservation (MDOC), Bureau of Parks and Lands before your trip?

___ No ___ Yes

12. Visitors use different sources of information to learn about access points to the watercourse. Please indicate the following sources you used. (check all that apply)

___ MDOC, Bureau of Parks & Lands staff
___ North Maine Woods check stations
___ Been there before
___ Told by friends
___ Don't remember
___ Other (describe _____)
___ Topographic maps
___ Allagash Wilderness Waterway map
___ Guidebooks
___ Internet/website
___ Newspaper

13. What were reasons for choosing your access point? (check all that apply).

___ A new area, variety
___ Access to good fishing or hunting
___ Been there before, familiarity
___ Close to home
___ Easy Access
___ Able to travel less distance for one-way canoe trip
___ Able to travel more distance for one-way canoe trip
___ Less crowded
___ Other (describe _____)

14. What were reasons for <u>not</u> choosing other access points? (check all that apply).

___ Too far to destination from access point
___ Too crowded
___ Too long a drive to access point
___ Watercourse travel too difficult or challenging
___ Time constraints
___ Weather
___ Road conditions too poor
___ Wanted to visit new area
___ Lack of fishing or hunting
___ Water too shallow for boating/canoeing
___ Not interested in other access points
___ Other (describe _____)

The following questions ask for your personal opinion about the Allagash Wilderness Waterway. This information will assist the Bureau to better understand the experience of the user.

15. We would like to find out how **important** the following recreation opportunities and conditions are to you when visiting the Allagash Wilderness Waterway. (circle the response)

Not at all **I**mportant (**NI**) **S**lightly **I**mportant (**SI**) **I**mportant (**I**) **V**ery **I**mportant (**VI**)

a. Natural Environment—enjoy the view from lake or river; the scenic quality of nature; observe and hear wildlife; the peace & quiet of a remote area.

NI **SI** **I** **VI**

b. Physical Activity—physical exercise and health; physical challenge.

NI **SI** **I** **VI**

c. Personal and Social Experiences – get away from daily routine; develop a sense of self confidence; chance to think and reflect; simplify daily needs.

NI **SI** **I** **VI**

d. Exploration and Remoteness – an area free of man-made or very limited man-made noises; remoteness from cities & people; an adventure & challenge.

NI **SI** **I** **VI**

e. Solitude – a small, intimate group experience; isolated from other groups; privacy.

NI **SI** **I** **VI**

f. Connection with Nature – learn about nature; opportunity for self-discovery.

NI **SI** **I** **VI**

g. Connection with Special Place/Tradition – feel connected to a natural place that is important to me; feel a sense of an earlier rugged time in history.

NI **SI** **I** **VI**

h. Wilderness or Backcountry Skills – improve backcountry travel skills; learn to travel to a remote destination and return successfully; a sense of self-sufficiency; recreation in a primitive environment.

NI **SI** **I** **VI**

i. No Litter and Waste – amount of litter along the watercourse and at campsites.

NI **SI** **I** **VI**

j. Management Condition – condition of the watercourse including the campsites and portage trails; publicized rules and regulations; extent of naturalness conditions at the designated campsites.

NI **SI** **I** **VI**

k. Information on Watercourse – finding suitable campsites, information on where other users are likely to be; finding an unoccupied campsite.

NI **SI** **I** **VI**

l. Number of Users – you saw while traveling; in groups that camped near you; large groups of users.

NI **SI** **I** **VI**

m. Hunting, Fishing, and Gathering – experiences associated with doing these activities in a remote area.

NI **SI** **I** **VI**

16. We would like to find out how **satisfied** you were with the following recreation opportunities and conditions to help assess the quality of your experience on this trip. (please circle response)

Very **D**issatisfied (**VD**) **D**issatisfied (**D**) **N**eutral (**N**) **S**atisfied (**S**) **V**ery **S**atisfied (**VS**)

a. Natural Environment—enjoy the view from lake or river; the scenic quality of nature; observe and hear wildlife; the peace & quiet of a remote area.

VD **D** **N** **S** **VS**

b. Physical Activity—physical exercise and health; physical challenge.

VD **D** **N** **S** **VS**

c. Personal and Social Experiences – get away from daily routine; develop a sense of self confidence; chance to think and reflect; simplify daily needs.

VD **D** **N** **S** **VS**

d. Exploration and Remoteness – an area free of man-made or very limited man-made noises; remoteness from cities & people; an adventure & challenge.

VD **D** **N** **S** **VS**

e. Solitude – a small, intimate group experience; isolated from other groups; privacy.

VD **D** **N** **S** **VS**

f. Connection with Nature – learn about nature; opportunity for self-discovery.

VD **D** **N** **S** **VS**

g. Connection with Special Place/Tradition – feel connected to a natural place that is important to me; feel a sense of an earlier rugged time in history.

VD **D** **N** **S** **VS**

h. Wilderness or Backcountry Skills – improve backcountry travel skills; learn to travel to a remote destination and return successfully; a sense of self-sufficiency; recreation in a primitive environment.

VD **D** **N** **S** **VS**

i. No Litter and Waste – amount of litter along the watercourse and at campsites.

VD **D** **N** **S** **VS**

j. Management Condition – condition of the watercourse including the campsites and portage trails; publicized rules and regulations; extent of naturalness conditions at the designated campsites.

VD **D** **N** **S** **VS**

k. Information on Watercourse – finding suitable campsites, information on where other users are likely to be; finding an unoccupied campsite.

VD **D** **N** **S** **VS**

l. Number of Users – you saw while traveling; in groups that camped near you; large groups of users.

VD **D** **N** **S** **VS**

m. Hunting, Fishing, and Gathering – experiences associated with doing these activities in a remote area.

VD **D** **N** **S** **VS**

17. The following questions ask about your preferences for campsite conditions on the watercourse. During your recent visit, how **important** were the attributes of a campsite to your experience. Please read each question carefully and check the box that best describes your opinion.

	Campsite attributes	**Not at all Important**	**Slightly Important**	**Important**	**Very Important**
a.	Amount of vegetation ground cover	☐	☐	☐	☐
b.	Dry ground	☐	☐	☐	☐
c.	Rustic improvements (e.g., log seats) in addition to picnic table	☐	☐	☐	☐
d.	Amount of litter present	☐	☐	☐	☐
e.	Letter/numbers carved on picnic table/ridge pole	☐	☐	☐	☐
f.	Ridge poles attached to picnic tables	☐	☐	☐	☐
g.	The number of trees with exposed roots	☐	☐	☐	☐
h.	The number of trees with nails, hooks, ax marks, etc.	☐	☐	☐	☐
i.	Amount of vegetation screening between campsites	☐	☐	☐	☐
j.	Out of sight and sound of other campers	☐	☐	☐	☐
k.	Good fishing nearby	☐	☐	☐	☐
l.	Good place to tie up boat or land canoe	☐	☐	☐	☐
m.	Level ground for tent	☐	☐	☐	☐
n.	Shade	☐	☐	☐	☐
o.	Number of trails/paths leading into and out of my campsite, other than the privy and water access	☐	☐	☐	☐
p.	Good swimming nearby	☐	☐	☐	☐
q.	Locating an available campsite when ready to stop	☐	☐	☐	☐
r.	Erosion at campsite	☐	☐	☐	☐
s.	Easy access to boat or canoe	☐	☐	☐	☐
t.	Amount of vegetation for screening between water and campsite	☐	☐	☐	☐
u.	Cross-breeze	☐	☐	☐	☐

PREFERENCE FOR CAMPSITE AND TRAVEL CONDITIONS
ON THE ALLAGASH WILDERNESS WATERWAY

18. We would like your evaluation of campsite and travel conditions on the Allagash Wilderness Waterway. Different people desire different things in a remote, natural setting, and managers need to know what you find acceptable and unacceptable. Managers can use this information to enhance your experience.

For each characteristic below, we want you to make two types of judgments:

a. Is there a range of values along the scale provided that is completely UNACCEPTABLE? If so, please indicate the unacceptable range by drawing a line ABOVE it, as shown in the example.

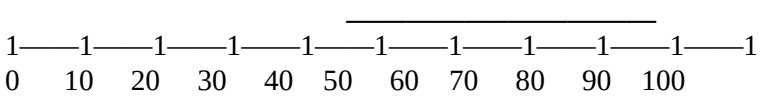
b. Is there a range of values that would also be ACCEPTABLE? If so, please indicate with a line BELOW the scale, as shown in the example.

PLEASE REMEMBER: NOT DRAWING A LINE IS OKAY, BUT THIS MEANS YOU ARE EITHER UNCERTAIN OR DON'T CARE ABOUT THAT ITEM.

****
EXAMPLE
****

The percent of time I see other people traveling along the watercourse.

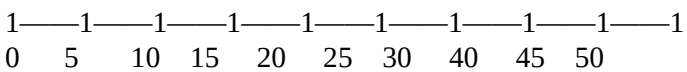
UNACCEPTABLE



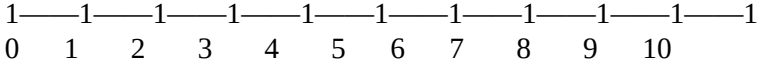
ACCEPTABLE

(In this example seeing other people traveling along the watercourse 0 to 50% of time while traveling on the watercourse is acceptable; seeing other people traveling more than 50% of the time is unacceptable.)

A. The total number of watercraft I see along the watercourse in a day.



B. The number of other groups that camp within sight or sound of my campsite.



C. The number of trees with nails, hooks, and ax marks, etc.

1——1——1——1——1——1——1——1——1——1——1——1——1
0 1 2 3 4 5 6 7 8 9 10 11 12

D. The percent of time I see other boaters traveling along the watercourse.

1——1——1——1——1——1——1——1——1——1——1——1
0 10 20 30 40 50 60 70 80 90 100

E. The percent of vegetation screening between campsites.

1——1——1——1——1——1——1——1——1——1——1——1
0 10 20 30 40 50 60 70 80 90 100

F. The percent of vegetation for screening between water and campsite.

1——1——1——1——1——1——1——1——1——1——1——1
0 10 20 30 40 50 60 70 80 90 100

G. The number of trees with exposed roots at my campsite.

1——1——1——1——1——1——1——1——1——1——1——1——1
0 1 2 3 4 5 6 7 8 9 10 11 12

H. The percent of vegetation loss and bare ground around the campsite, excluding the fire pit.

1——1——1——1——1——1——1——1——1——1——1——1
0 10 20 30 40 50 60 70 80 90 100

I. The number of trails/paths leading into and out of my campsite, other than the privy and water access.

1——1——1——1——1——1——1——1——1——1——1
0 1 2 3 4 5 6 7 8 9 10

J. The number of rustic improvements (e.g., log seats) in addition to picnic table.

1——1——1——1——1——1——1——1——1——1——1
0 1 2 3 4 5 6 7 8 9 10

19. Did your party camp overnight?

___ No ! If No, please go to **Question 28.**
___ Yes ! If Yes, please go to **Question 20**

20. a. How many nights did you stay? ___.
b. Did you build a wood fire __; or use a camp stove __; or both __?

21. How many other parties on average camped within sight or sound of your campsite? _____

22. If you camped along the watercourse, how often were you able to find a campsite that was acceptable in terms of other parties being camped within site or sound?

___ Always
___ Usually (At least ½ time)
___ Sometimes (Less than ½ time)
___ Never

23. How did you feel about the number of other people you saw at the campsites on the Allagash Wilderness Waterway?

___ Saw way too few
___ Saw too few
___ About right
___ Saw too many
___ Saw way too many
___ Does not matter to me one way or the other
___ Do not remember

24. Was a campsite available where you planned to stop each night?

___ Always
___ Usually (At least ½ time)
___ Sometimes (Less than ½ time)
___ Never

25. Did you take the first available campsite you found where you intended to stop?

___ No ___ Yes

26. Did you reject an available campsite because of its **<u>condition</u>** (litter, damaged trees, erosion)?

___ No ___ Yes What **condition** caused the rejection of campsite?
Check all that affected your decision-

__ litter
__ trees with exposed roots
__ too many damaged trees
__ lack of vegetation ground cover
__ condition of fire pit
__ scarce vegetation for screening other campers
__ too many trails leading into and out of campsite
__ other (describe _____)
__ human waste
__ not enough tent sites
__ firewood scarce
__ erosion at campsite
__ site too buggy
__ site too wet
__ ridge pole or table in poor condition
__ too many rustic improvements

27. Did you reject an available campsite because of its **location** (shallow boat landing; poor view, too close to another occupied camp)?

___ No ___ Yes ! What **location characteristics** caused the rejection of campsite? Check all that affected your decision-

__ too close to another occupied campsite
__ multi-cell campsite
__ poor view of water
__ too far away from boat
__ no level ground for tent
__ size too small for our group
__ other (describe _____)
__ shallow water for landing boat
__ not enough shade
__ no breeze for insects
__ too close to water
__ lack of good fishing
__ lack of good swimming area

28. About how many other parties did you see traveling the watercourse per day? ___
How many of these were large parties (12 or more people)? ____

29. How did you feel about the number of other people you saw per day while paddling or boating in the Allagash Wilderness Waterway?

___ Saw way too few
___ Saw too few
___ About right
___ Saw too many
___ Saw way too many

___ Does not matter to me one way or the other
___ Do not remember

30. How important or valuable are recreation experiences like the Allagash Wilderness Waterway to you personally?

___ Extremely important
___ Very important
___ Fairly important
___ Not very important
___ Not at all important

Is there anything else about the Allagash Wilderness Waterway experience you would like to share with us?

_____
_____
_____
_____
_____
_____
_____
_____
_____

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